An Address
ON
NEUROLOGY AND THERAPEUTICS.

Delivered at the Medical Society of London on April 1st,

BY W. R. GOWERS, M.D. LOND.,

CONSULTING PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL; PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, W.C.

MR. PRESIDENT AND GENTLEMEN,—I count it no small honour to occupy the position in which I am placed to-night, not only as the first recipient of a distinction which must ever be one most highly esteemed by the profession, but as having the duty placed upon me of inaugurating the new arrangement for the Fothergillian Prize. The duty, indeed, is one which I feel carries peculiar responsibilities, because it involves a precedent of no small importance and lays upon me the task of setting an example of no light responsibility. I wish that I could feel satisfied that the duty would be fulfilled and the example set in a manner worthy of the occasion. This satisfaction I cannot have, but I must rest content with the endeavour to do my best and with the consciousness that I may safely reckon on your indulgence.

These are, however, not the only difficulties which present themselves to my mind as encircling the duty, pleasurable though it be, which lies before me. The founder of this Society, in whose honour the prize was established, lived and worked in the days when every physician was, before all else, a practitioner of his art, and when the birth-throes of abstract medical science had scarcely begun. The practical aspect of the work of the physician has not yet vanished and indeed it never can vanish (except in the case of those pure scientists to whom the name ceases to be applicable), but it has changed in relative predominance, and it has changed especially as regards the different periods of the physician's working life. Here, as everywhere, "the old order changeth, yielding place to new." The physician was then a practitioner from the very first—from the earliest days of his career—but now this is true only of some. The change has been inevitable. Science is an exacting mistress; medical science is not the least exacting, and with advancing years she has renewed her youth and multiplied her demands on the devotion of her servants. If many physicians did not devote their early years to her abstract worship our knowledge could not have reached the point it has attained; the prospect of future advance could not be so bright as it is, whatever the actual degree of that brightness may be, did they not still do so.

The different character of the work of physicians in the early and middle period of their active efforts to further the progress of medical science is reflected in the character of the various societies which exist and of which they are members. The founder of the Medical Society of London, whose memory this prize will always preserve, possessed to a larger degree than most others of the first rank the practical characteristics which dominated the work of the physicians of his day. The Society has always kept this aspect of medicine in view, and has thus been of peculiar service to all practitioners of medicine, a service on which it may justly pride itself. Hence it seems to me to be incumbent on those who venture to address it, and especially on those who may occupy the honourable post I have the pleasure of occupying to-night, to keep in view this aspect of its work, confirmed by the practice of so many generations and possessing, as it certainly does possess, a high degree of peculiar utility. But with it there is associated a duty which is not, I think, always recognised or always fulfilled, and which is yet of extreme importance. In the present day the abstract cannot be ignored. It asserts itself at every turn in scientific work. And with it another fact is asserted—is whispered, if you like, but in tones too clear not to be heard and too distinct to be mistaken—the fact that there is no abstract work which does not at some time or in some way find a practical application. True in each department of science, it is conspicuously and almost invariably true in medicine. This application is, moreover, more frequently immediate, less frequently deferred, than in the case of most sciences. In this fact there is involved another duty, which I would ask you to permit me to emphasise. The practical application of the abstract investigations of medical science can be indicated by none so well as by those whose researches have supplied the abstract results themselves, and who can, if they be inclined to do so, at least indicate the practical applications of their investigations in a way and with an efficiency that is possible to no one who comes after them and takes up the thread of their labours in order to weave it into the texture of the practitioner's daily labour. But this requires deliberate effort. It requires also diversion of effort from the more attractive and perhaps entrancing continuation of the work which lies close at hand. The result is not always visible, but it is not therefore the less certain, it is not the less important; and my reason for thus dwelling on what may seem somewhat irrelevant is to urge on the abstract worker the extreme importance of endeavouring, at each stage in his labours, to perceive what applications his results may have, and to point them out for the benefit of those who devote themselves to the practical application of the abstract and who might not, and probably would not, perceive them without the aid thus rendered. There are, indeed, instances in which the abstract and the practical are united in one person. Instances will occur to you without my aid, and a conspicuous example is before you in the person of your President.

I must ask you to allow me to preface my special remarks regarding the treatment of disease of the nervous system with some observations of a more general character on the pathology of those maladies, or rather on the change which has come with changing times on our conceptions of their nature. In doing this we cannot separate physiology and pathology. The two subjects will not be divorced, and this is true now to a degree and extent to which it was never true before. The more we learn of each, the more intimate, the more essential, the more radical, we must perceive to be their union. Disease is health gone astray; pathology is but perverted physiology, and we can only obtain an adequate idea of morbid processes by acquiring first a knowledge of those of health. This fact is of very great importance in regard to therapeutical procedures. We shall see this in a moment. Of necessity our view must be restricted to those points which are related to the topic that is before us. We cannot range at large over the whole wide subject, attractive and even entrancing though it may be and is; but the special matters from which proceed the diseases we have to treat we cannot ignore, and we must consider the changes that have come over our conception of the normal processes, and which have entailed corresponding changes in our conceptions of the related processes of disease, before we can, with any prospect of success, attempt to ask ourselves even elementary questions regarding their treatment. Hence you may perceive that the method I have to ask you to pursue may seem circuitous and the path we should have to take may seem to be indirect. The method may not prove the less effectual for all that, nor the path less sure. Without doubt the present generation has witnessed a vast change in our conceptions of the structure of the nervous system and its functions and of the disorder of these. From these has proceeded a necessary change in our practical thoughts and in the measures we adopt in endeavouring to alter that which is wrong and in our efforts to substitute order for the disorder that we can observe. If we try to perceive the nature of the change in our conceptions and try to epitomise it in a brief expression, I think we should say that its essential nature has been the substitution—forgive me if I seem to use an expression of perplexing ambiguity and obscure brevity: it will clear itself in a moment—of the analytical for the synthetical method of thought, of analysis for synthesis, in our ideas alike of health and disease. Expanded into somewhat simpler terms, it may be said that the change has involved a perception of the many where before we saw the much. The single function, complex or complicated, we now perceive to have had only a spurious simplicity and to consist of a combination of distinct elements, working together or working apart, but not to be confounded, except with the certain result of being confused. Here, as elsewhere, we must, as a great thinker once said, distinguish where we cannot divide; and, I may add, we must divide where we cannot separate.

You may now observe that I have been only saying that which is familiar, but saying it in recondite phrase—a process that is apt to be annoying, but yet is not without its advan-

tage. It tends to give the familiar a fresher aspect and to fix its features on the mind in a more effective manner. Grasp the change of conception which has taken place in the terms in which I have described it; realise that it has generally consisted in a substitution of the particular for the general. The gain has been immense, because the elements were seldom all united, and their partial effect produced too often insoluble difficulties when the constituents had not been discerned and when we could only see an imperfect whole instead of perfect parts. Consider the functions of the cortex of the brain as an illustration of this truth. You can do so without my aid. I need not dwell upon its features; I need not point out the details of the illustration it affords, because these are well known to every one of you, and I have already perhaps spent too much time and too many words over that which it is superfluous to discuss, and I shall have to consider another illustration on account of its special significance. The point to which I would bring your thoughts—that for the sake of which I have dwelt on the nature of the change which has taken place in our ideas—is the probability, or rather the certainty, that this process of analysis is far from finished. Absolutely complete we must not expect it ever to become, but we cannot even conjecture at present how far off may be the point which we may reasonably regard as that of relative completion; we cannot yet guess how far we may be from the point at which we shall reach the ultimate of our practicable analysis, the point beyond which we cannot go with the confidence that science demands and a scientific habit of thought must have.

(To be continued.)

HEMICRANIA HYSTERICA.

A CONTRIBUTION TO THE PATHOLOGY OF MIGRAINE.

BY A. G. AULD, M.D.,

ASSISTANT PHYSICIAN TO THE ROYAL INFIRMARY, GLASGOW.

BY the expression "hemicrania hysterica" I do not refer to what is commonly known as "clavus hystericus" or the particular form of headache which is characteristic of hysteria, but I use it to denote a variety of migraine or hemicrania which seems, possibly from its rarity, to have eluded adequate notice from most writers on this subject. Migraine, as is well known, is not a condition which betrays constant characters. It owns probably a variety of causes, its symptoms form a *bizarre* group, and its amenability to treatment varies accordingly. It makes its advent at some period or other of the bodily development, and is not infrequently found in association with a sensitive and pregnant mind. In recurring paroxysms it usually persists from youth to failing years, but its galling power is most keenly felt in the heyday of life, and by its sudden and violent interference with duties or enjoyments it begets in its victims a painful sense of insecurity, or even haunts them with dread.

Dr. Liveing,[1] in his carefully compiled treatise on migraine, regards the disorder as essentially an idiopathic neurosis and as closely allied to epilepsy, with which it is exceptionally interchangeable. He also regarded it as interchangeable with asthma, gastralgia, pectoralgia and recurrent insanity. Dr. Liveing's view is adopted by many. Thus Dr. Clouston[2] says of migraine that it is one of the purest of the developmental neuroses appearing with chorea, epilepsy, asthma and somnambulism in the period of coördination of motion and emotion, or between the ages of seven and thirteen. Dr. Hughlings Jackson[3] in like manner speaks of migraine as a sensory epilepsy, the discharging lesion being situated in the posterior lobes of the cerebrum or such parts of them as are developed out of the optic thalamus. He grounds this opinion on the researches of Ferrier, which go to show that the sensory area is located in the posterior lobes. Dr. Hughlings Jackson regards the ocular phenomena and unilateral disorder of sensation as parts of the paroxysm, the headache and vomiting being post-paroxysmal. His reason for so thinking is that these sensory epilepsies bear the same relation to hemianæsthesia with hemiopia from disease of the optic thalamus as unilaterally beginning convulsions do to the ordinary kind of hemiplegia from destruction of the corpus striatum. Dr. Anstie,[4] Dr. Liveing,[5] Dr. Seguin,[6] and others believe that a lesion, at present undemonstrable, exists in the parts of the pons and medulla which give origin to the sensory roots of the trigeminus. Dr. Anstie speaks of this lesion as "an inherited imperfect organisation of the larger or smaller tracts in the medulla, causing atrophic molecular irritation in the root of the trigeminus." Dr. Liveing enlarges on this view, and ingeniously suggests the idea of a "nerve storm" which traverses the pontine sensory tract from above downwards to the medulla. "Since in the typical seizure," he remarks, "the visual disorder is always the initial symptom, the headache the middle, and the nausea and vomiting last, we infer that the 'storm' has its point of departure or its principal focus in the optic thalamus and that its normal course is from above downwards or from before backwards in the sensory tract." Dr. Latham[7] refuses to commit himself to the view of a definite cerebral lesion, but regards exhaustion of the cerebro-spinal system as the first factor in the process. The effect of this is a defective inhibition of the sympathetic nerve, which consequently exhibits a morbid activity. It first becomes excited in action causing a contraction of the vessels of the head and anæmia of the brain. Herein he explains the earlier symptoms of the attack and particularly the disorder of sight. After a time exhaustion of the sympathetic ensues and the bloodvessels dilate, causing throbbing and aching of the head and contraction of the pupil. This theory of Dr. Latham represents in fact the various vaso-motor theories of migraine which have been founded in opposition to the epileptic hypothesis. Professor Du Bois Reymond[8] regarded a unilateral tetanus of the vessels of the head as causative of the pain, but his view has only been partially accepted by other observers. Drs. Möllendorf[9] and Bergen,[10] as the result of numerous and careful observations, found arterial hyperæmia during the attack of pain. Dr. Eulenburg[11] sought to compromise the matter by suggesting that migraine might be caused either by spasm of the vessels of the head (hemicrania sympathico-tonica) or by dilatation of these vessels (hemicrania angio-paralytica), in either case the pain being due to irritation of the nerves of sensation distributed in the bloodvessels. MM. Poincaré[12] and De Chègoin locate the pain so caused in the perivascular network, the former regarding both nucleus and branches of the fifth nerve as irritated and congested. Dr. Lauder Brunton[13] affirms from personal observation that the apparent discrepancies as to the state of the vessels may be due to the fact that both contraction and dilatation simultaneously exist at different points of the same artery, "the consequence of this disturbance being that the blood, instead of being gradually regulated in its onward flow by the gentle action of a long artery, is suddenly checked by a local contraction, and the successive impulses produced by the jet of blood hammering upon this contracted point give rise to great pain." Dr. Hammond[14] and Dr. Wilks[15] adopt the vaso-motor hypothesis of migraine. The former authority observes that in the most marked forms of the affection he is "unable to see more than a resemblance to some of the phenomena of the epileptic attack, whilst a very noticeable difference is as regards the effect upon the mind." Dr. Wilks[16] argues similarly against the likeness to epilepsy and affirms from his experience that migrainous patients never become epileptic or belong to epileptic families; "in a word," he says, "I see no resemblance between an attack of migraine and epilepsy. I observe they never pass the one into the other, they do not occur in the same families or in the same class of persons, and the remedies which relieve the two diseases are different." Outside the cerebral and vaso-motor hypotheses some have claimed to find in many cases of migraine local lesions in the neighbourhood of cranial nerves. Interesting examples of these have been given by Dr. Norström.[17] According to this observer the painful spots usually found on the head are inflammatory foci due to myositis and proceeding to induration. The predisposing cause of the indurated spots he sup-

[1] On Megrim and Sick Headache, by E. Liveing. 1873.
[2] The Neuroses of Development, 1891.
[3] THE LANCET, Aug. 14th, 1875.
[4] Practitioner, vol. ix., p. 273. [5] Op. cit. [6] Opera Minora, p. 244.
[7] Brit. Med. Jour., March 30th, 1872, p. 336.
[8] Archiv für Anatomie und Physiologie, 1860, Heft iv., p. 461.
[9] Virchow's Archiv, Band xii., p. 365.
[10] Ueber Hemicrania, 1873.
[11] Ziemssen's Cyclopædia, vol. xiv.
[12] Le Système Nerveux Périphérique.
[13] St. Bartholomew's Hospital Reports, vol. xix., p. 329.
[14] Diseases of the Nervous System, p. 690.
[15] Lectures on Diseases of the Nervous System.
[16] THE LANCET, Aug. 11th, 1888.
[17] Traitement de la Migraine par le Massage, Paris, 1885. See also THE LANCET, July 18th, 1885.

poses to be rheumatism, and the local inflammations, being liable to various changes and exacerbations, exercise a varying influence on the terminations of nerves in their neighbourhood, whilst the vaso-motor nerves may also intervene in the irradiation of the abnormal nervous impulses. Similar cases had been observed by Drs. Hensen, Helleday, and Wretlind, and were curable by massage. In connexion with this it is interesting to note an observation first made, I believe, by Dr. Anstie and since corroborated by others—that many cases of bilateral migraine tend after a number of years to assume more and more the characters of neuralgia of the fifth nerve, and not infrequently in such cases various local lesions exist along the course of some of the branches of this nerve, such as periostitis and blanching of the hair. I may say that I have observed in one case a small periosteal node situated in the occiput and corresponding in position to the point where the great occipital nerve pierces the complexus muscle. Again, the intimate connexion of migraine with stomach and liver disorder has led many to regard the latter rather in the light of a determinating cause. Dr. Liveing, indeed, instituted a separate variety of symptomatic or pseudo-migraine, in which "the morbid material may either be introduced from without or generated within the system by imperfect assimilation or imperfect excretion." Dr. Clifford Allbutt[18] has insisted on the hepatic element, remarking that "migraine is a complex affection in which abdominal and cephalic disorder go hand-in-hand." In some cases he has found tenderness over the liver and other signs of congestion in this organ. Trousseau[19] looked on migraine as closely allied to gout and frequently replacing it, forming what he termed "lardaceous gout." Lastly, some cases of migraine are due to astigmatism and are permanently cured by its correction.

Thus it is seen that one is confronted with quite a number of speculations as to the pathology of migraine, and the probability is that migrainous attacks cannot always be referred to the same cause—that the external manifestations of migraine are in point of fact symptomatic of diverse pathological conditions. This is rendered the more evident when these symptoms are closely considered, for they vary in their groupings, in their periods of occurrence and in steadfastness of character. Not infrequently some of them are absent and so robbed of specific value, or fleeting when they do appear and so the less open to serious interpretation. It will therefore not be surprising that certain cases should be found having the characters of the most typically developed migraine, but which must in truth be regarded as peculiarly the outcome of the hysterical diathesis. Notwithstanding the great preponderance of migraine amongst females, an hysterical migraine does not seem to have been frequently recognised. In Dr. Liveing's tables, I just observe one case in which it is stated that the migraine had "replaced hysterical seizures which had also been attended by transient hemiplegic numbness." It is probable, however, that not a few cases of so-called developmental migraine, supposed to be epileptic manifestations, may with greater truth be referred to hysteria and if treated as such would issue much more favourably than they would on a restricted diet and the exhibition of bromide of potassium or antipyrin. The following case will, I think, bear out the truth of this.

A young woman aged twenty-seven, a plump and full-blooded brunette, has suffered from dextral hemicrania for twenty years. In her appearance, in her conversation and in her behaviour the hysterical diathesis is plainly indicated. No specific neurosis could be made out in her family, but on the mother's side a disposition to "nervousness" was inherited. The attacks are both mild and severe; sometimes they will continue for two or three days, more frequently they last from two to twelve hours. They occur irregularly, once or twice a week in early winter and spring; at other seasons the intervals range from one to three weeks. On one occasion a few years ago the patient had a fit of hysterics which was quite unaccompanied by any headache. No connexion apparently exists between the attacks and the menstrual functions, but leucorrhœa sometimes precedes them and is always regarded as prodromal. Her life has been entirely spoilt by the affection, although in the intervals of freedom she enjoys excellent health and is capable of entering with zest into the enjoyments of life were it not that any pleasure is marred by the dread of its being rudely interrupted. Marked visual symptoms generally, but not invariably, precede the pain. There is then vertigo and the patient's expression at this stage is that of languor not unmingled with anxiety. The eyes look heavy and the eyelids tend to droop—a symptom which Dr. Warner[20] has observed in migrainous patients generally. Involuntary shudderings occur and there is a general dulling and stilling of the mental and bodily energies. The ocular symptoms described are various. Sometimes there seems to be scintillating scotoma which never proceeds to hemianopsia; more frequently, however, the symptoms are characteristic of varying degrees of amblyopia of a less definite character, such as mistiness before the eyes and an inability to distinguish clearly the outlines of objects. As the attack proceeds this gives place to asthenopia. The pupils, however, show no variation from the normal, reacting briskly to light and accommodation; the optic discs are quite normal. When the pain strikes, it is at first moderate in force, selecting the supra-orbital ridge and parietal eminence. Ere long its character alters somewhat; it becomes fierce, boring and diffusive; it waxes and wanes not, extending from the eye to the occiput, gradually settling itself down in maximum intensity in the latter situation. Sometimes the patient utters piercing shrieks, stares wildly, tosses about, and implores pressure and heat to be applied to her head. There is great nausea with foul tongue and offensive breath, there are frequent and copious discharges of urine, and there is a feeling of numbness and tingling in the left hand and arm, lips, pharynx and alæ nasi. This paræsthesia is evanescent, but very marked whilst it lasts. Sound and light are intolerable and there is great irritability of temper, coexistent, however, with a morbid craving for sympathy. Physical examination reveals no marked pupillary symptoms nor yet any special vaso-motor phenomena, although the carotids throb somewhat more strongly than usual; the temperature is normal; the pulse is slow at first, gradually rising to 80 or 90; the extremities are cold. Pressure over the third and fourth dorsal vertebræ gives rise to pain which makes the patient start, and there is tenderness over the ovaries. The declension of the paroxysm is gradual and seems hastened by pressing the head between the hands. Bilious vomiting sometimes occurs and is generally indicative of speedily approaching relief. Towards the termination of the most violent attacks there is a symptom which is highly significant. I refer to emotional manifestations, chiefly consisting of laughter with rambling and irresponsible talk.

In this case the visual symptoms, vertigo, hemicranial pain, sickness and unilateral sensational disorder, make up a striking picture of migraine, and yet there can be little doubt that the whole thing is purely a manifestation of hysteria. For many years the patient had been treated for ordinary migraine, the symptoms being usually referred to defective excretion. It may here be mentioned that violent epigastric pain was sometimes complained of; but that the liver had little to do with it is evident from the circumstance that the most violent paroxysms would sometimes accrue when the digestive organs were acting perfectly, whilst on the other hand no dietary or medicament directed to the liver had the slightest effect either upon their frequency or severity. Nor could the pain be referred to vaso-motor disturbance, for this was but slight, and careful examination revealed no difference whatever in the vessels of either side of the head at any period of the attack. It is difficult also to see how the hysterical element could have been merely an effect and not the basis of the disorder. By those who maintain the epileptic theory of migraine it might be suggested that this was a sensory hystero-epilepsy. There might be no objection to this provided the epileptic theory were well founded, but there are many and serious considerations which militate against it; for it is evident that if a discharging lesion existed in the sensory zone it must necessarily be local and circumscribed, seeing that the sensation disorder is always limited to the upper extremity and parts of the head. It would thus resemble the lesion of Jacksonian epilepsy and not that of ordinary or idiopathic epilepsy. But Jacksonian epilepsy is always due to a gross circumscribed lesion in the motor area, whilst migraine is an affection which passes off after years and is thus independent of a gross lesion; and, again, such a theory fails to explain the hemicranial pain, which is not a part of the paroxysm of such a sensory epilepsy. In like manner the hypothesis that migraine is due to an explosive lesion situated in the optic thalamus, tegmentum and sensory tract in the

[18] Practitioner, vol. x., p. 25.

[19] Clinical Lectures, vol. iv., p. 378 (New Sydenham Society).

[20] Brit. Med. Jour., vol. ii. 1870.

medulla, though plausible, is nevertheless equally questionable. How, it may be asked, does it come about that a lesion involving such a large tract is accompanied by such a limited range of symptoms, and how does it come about that the symptoms in any given case are so liable to variation, both in respect of locality and extent, and that the motor strand is never involved? If, again, there be an irritative lesion in the medulla, it is quite contrary to experience to find such a chronic lesion invariably tending to disappear instead of proceeding to a fatal issue. These and similar considerations imply that as yet the existence of a cerebral lesion in migraine has not been established on satisfactory grounds and that the theory of a functional neurosis holds a stronger position.

Just as this functional disorder may be a manifestation of cerebral exhaustion, or of the gouty diathesis, or of such other causes as lead to deranged action of the sympathetic system, so in like manner I have endeavoured to show that it may exceptionally be encountered as a genuine manifestation of hysteria; that, although in manner of inception, fulminating character and period of decline, the attacks in this case bore a resemblance to what is found in some of the graver neuroses, the associated symptoms and innocent character of the malady lend to it a different meaning, placing it in the category of those heterogeneous disorders which have their common root in "perversions of the ego," to use the happy phrase of Sir William Gull,[21] and in order to stamp its individuality the term "hemicrania hysterica" may not be inappropriate.

Lugar-place, Kelvinside, Glasgow.

ON SOME ANOMALIES IN THE CLINICAL MANIFESTATIONS OF ENTERIC FEVER AND PNEUMONIA.

BY JOHN A. MACDOUGALL, M.D. EDIN.,
FORMERLY SURGEON TO THE CUMBERLAND INFIRMARY.

IN the retrospect of professional experience there are few lessons more lasting than those learned by the study of anomalies in disease, and this because they are often taught at great cost. In the early days of a professional career, and indeed, as regards some maladies, throughout its entire course, knowledge is the outcome largely of the spoken or written words of a teacher, and as he of necessity deals mainly with the delineation of a disease in its ordinary forms it happens that its mimetic and protean manifestations escape the notice of the student. Upon his own powers of observation in the future must he rely, and although it is true that "the dullest of us gain a certain sharpness in the matters to which our thoughts are habitually drawn," yet wisdom in this respect grows slowly—for the circumstances essentially necessary to its growth are not of everyday occurrence—and for the average general practitioner the best of his working day is often spent ere he has acquired by continued observation that form of instinct which enables him to detect under maybe a complete disguise some of the most familiar and usually most readily recognisable of diseases. The force of this has often come home to me in my endeavours to work out some such difficulty, and it grew stronger when I read the able report to his health committee of Dr. J. B. Russell of Glasgow on "Errors in the Diagnosis of Infectious Diseases." In that report he draws marked attention to the fact that a considerable percentage of cases admitted to hospital as suffering from fever had no febrile ailment at all, and in emphasising this point he writes: "One mistake I can find no apology for, and that is certifying a person to have fever or a febrile disease when the temperature is normal. Another mistake which might be avoided is overlooking an obvious local disease such as pleurisy or pneumonia which is sufficient to account for the fever present." Medical men must feel how real and strong is the basis on which these statements rest, and the very high authority from whom they emanate, and yet I take it that not a few practitioners have had an experience similar to my own in which cases of fever were unmarked by a rise of temperature and in which some cases of local inflammatory disease were so long without the physical signs which characterise them that it was difficult to avoid the error that Dr. Russell reprobates. In treating this subject I know how aptly and largely I might quote from the experience of others, but it seems better to me to deal with cases coming within the range of my own knowledge and experience. On the protean character of enteric fever all observers are agreed, for the dominant symptomatic phases present such variety, and the complications are so manifold, that the diagnosis of the primary disease may, even to the end, remain but a matter of probability. Much importance has been attached to the evidence presented by the thermometer in the early days of enteric fever, and with just reason, but the anomalies it shows are so frequent and so notable that the rules with reference to it, which have well-nigh become axioms, are often set at naught. All remember the chief of these: that a temperature of 104° on the first or second day of the illness negatives typhoid fever; that if the evening temperature does not on or before the sixth day reach 103° this disease can be excluded from the diagnosis; and that a temperature approaching to normal in any evening during the first week has a similar meaning attached to it. That this is not always so the following cases will show.

CASE 1.—An active healthy lad aged sixteen returned from a holiday in apparently perfect health. The very evening of his return he was seized with a severe shivering, and this was attended by violent headache and vomiting. Some hours later he was found with a temperature of 104·6°, with slight sore-throat, with a scarlet rash over his entire surface, and complaining greatly of headache. Next day his temperature was 103° and the rash still present, but less distinct. On the following day it had entirely disappeared; his temperature was 102°, rising in the evening to 103·4°. And so it remained, rising and falling, until the seventh day, when, with slight enlargement of the spleen and a still coated tongue, the first typhoid spots were visible.

Not only is this case notable for its sudden and severe access, but by reason of the early appearance of the scarlet fever-form rash which at a later date—on the fourth or fifth day—not unfrequently precedes the rose-spot eruption.

CASE 2.—A young woman aged twenty-five, complaining for a day or two, was seized one evening with headache and bilious vomiting. Seen late on the following day her temperature was found to be 103°, her pulse not much quickened, but she had a foul tongue and complained greatly of nausea. The following morning the temperature was 101°; two days later it was 98·4° in the morning and 99° in the evening; despite which she passed through a mild but well-developed attack of typhoid fever, marked by the presence of many spots.

CASE 3.—Another patient suffered from headache, pain in the limbs and weariness. The temperature was 102° in the evening and 100° in the morning, until, on the fifth day, it was 101° and on the sixth evening normal; notwithstanding which the patient passed through an attack of well-marked continued fever.

These cases, then, tend, as doubtless do many others, to throw doubt upon the correct reading from the point of diagnosis of some temperatures in the first week of typhoid fever, but cases exist in which there may be complete apyrexia. Liebermeister maintained this point, and that he was right the following cases demonstrate.

CASE 4.—A young man aged twenty-five presented himself in the consulting-room, complaining of weariness and disability for exertion. He had been ill for a few days and although his nights had been disturbed he had no feeling of feverishness. The pulse was quiet and of good character; his temperature (mouth) was 98·4°; his tongue was furred and he looked wearied. Physical examination showed no organic change except a slight enlargement of the spleen. As he had hitherto been in perfect health and had never been exposed to malarious influences considerable significance was attached to this enlargement. He was sent to bed and kept under the most careful observation, the temperature being taken at different times during the twenty-four hours, and it was found never to rise above 99° in the mouth. His attack of fever, marked enough in every other way, ran a normal course of nearly twenty-eight days, and his recovery was slow and protracted.

CASE 5.—A delicate-looking young man aged twenty-three also presented himself in the consulting-room, his complaint being of headache, anorexia and weariness. He had been ill for three days and dated his malaise from over-exertion in a gymnasium. His tongue was coated. His temperature (mouth) was 99·2°; his pulse was quick, and he had probably a slight enlargement of the spleen. Sent to bed and carefully watched,

[21] THE LANCET, March 17th, 1888.

his temperature was never found to exceed 99·4° in the mouth during the three weeks his attack lasted, although he had one of the most profuse typhoid rashes I have ever seen (even his forearms and legs being covered with spots), with diarrhœa and a very full abdomen as accompaniments.

CASE 6.—A young woman aged twenty-three, ill for three days with what was supposed to be a bilious attack, but which had prostrated her considerably, was found, on a forenoon visit, with severe headache, a coated tongue and complete anorexia, a quiet pulse of 80, and a normal temperature in the mouth. This condition of temperature she maintained, for it never, although taken at various hours and always in the mouth, exceeded 99° in the four weeks during which her illness lasted—an illness characterised by diarrhœa, by rose spots and by that mild delirium so frequent during the later days of enteric fever.

In each of these cases the febrile state was unmarked by rise of temperature, but that something was wrong the enlarged spleen in Case 4 proved beyond a doubt, whilst in Case 5 its probable increase emphasised and added suspicion to his other complaints. In Case 6 the persistence of a coated tongue, whilst other symptoms were mending, was sufficient to keep me on the watch and to recognise the spots, which were late in appearing.

In each of these instances and in very many in other days, when thermometry was little known, the clearing tongue gave the first notice of approaching convalescence. Enteric fever, commencing as and simulating intermittent fever, is a well-recognised form of anomaly. Trousseau long ago directed attention to this fact, and I take it, from the manner in which he writes and from the little I know of attacks of fever as occurring in France, that his opportunities for such observation were greater than they are in English practice. At the same time, in home work such a condition must be reckoned with.

CASE 7.—A patient aged forty-five was seized with rigor, headache and sickness, with an evening temperature of 102°. Two days afterwards (his temperature having gradually fallen) all fever had disappeared. The same evening there was again a rigor and again a rise of temperature — a rise which in the following forty-eight hours fell to normal. Then, again, an exact repetition, with this notable difference that the temperature gradually rose until it attained its full height about the sixth day, and an uneventful attack of fever was passed through. The convalescence dated twenty-eight days from the first rigor. This, the tertian form, is less common and therefore less suspicious than when the fever is quotidian.

Although, as a rule, enteric fever bears well its name of "continued," inasmuch as its normal course is from twenty-one to twenty-eight days (more frequently, I believe, the longer term), yet most physicians now admit that its course may be more rapid and that defervescence may begin towards the end of the second or the beginning of the third week. It is at times, however, even shorter than this—marked, it may be, by early severity of symptoms, and yet terminating from the tenth to the eleventh day. This is the abortive form of Lebert.

CASE 8.—An active muscular youth aged twenty complained of headache and anorexia for three days and then went to bed, where, although easier, he was not much better. When seen three days later, the sixth day of his illness, he looked ill and presented—in the absence of recognisable organic disease—the ordinary condition of typhoid fever, a diagnosis rendered the more probable by the story that during the past two days he had had slight attacks of epistaxis. His temperature in the evening was 105°. On the following morning (the seventh day) it was 103·2°; there were spots to be seen, and he had retention of urine. In the evening the temperature was 104·2°. On the eighth day the morning temperature was 102·6°, the evening temperature being 103·4°. There were one or two fresh spots, bronchial râles in the chest and headache. On the ninth day the morning temperature was 102° and the evening temperature 103°. On the tenth day the morning temperature was 101°; evening temperature, 102° (night sweats). On the eleventh day the morning temperature was 99°; evening temperature, 99° (night sweats). On the twelfth day the morning temperature was 98°; evening temperature, 98·4° (night sweats). The defervescence, beginning as it did on the eighth day—a day not unmarked by the same phenomena in an ordinary case—is notable for its rapidity as well as for the sweating which accompanied it. It is not, however, in the temperature records of its access, its course or its termination that enteric fever presents anomalies. It mimics other diseases; and, inasmuch as some of these are well-recognised complications in its own march, recognition of the primary disease is rendered more difficult. Pneumonia (lobar) cannot be regarded as a frequent complication of enteric fever, but it does occur, and as it may make its appearance early in the disease it may render the recognition of the coincident fever somewhat difficult. Such a case is the following.

CASE 9.—A professional gentleman aged forty-four, actively engaged in his work and having made no complaint except that he had had for a day or two a short cough, was suddenly seized with rigor, with violent pain in his right side and with shortness of breath. His medical man, who saw him at once, diagnosed from the symptoms and from the presence of friction that he had a pleurisy, the pain of which was so severe that he was leeched and had morphia hypodermically. His temperature rose to 103° in the evening, falling a degree on the morning following, and despite the disappearance of pain there gradually developed the physical signs of a pneumonia. I saw him towards the end of the first week of his illness and found him with full evidence of a right-sided pneumonia, attended, however, by great prostration, by some diarrhœa and by fulness of the abdomen. There was, however, no detectable enlargement of the spleen and there were no spots to be seen. The patient's temperature ranged from between 102° in the morning and 103° or 104° in the evening. His pulse was quick and small (120) and his tongue dry and coated. This condition of affairs was steadily maintained for the following ten days, with no increase in the extent of pulmonary dulness, but with some change in the auscultatory sound, for the tubular was exchanged for softer bronchial breathing with redux crepitation, and the dulness of the percussion note over the diseased area became much less pronounced. With these pulmonary changes, however, there were increasing general prostration, increasing abdominal fulness and profuse diarrhœa. There were no spots detectable, and the condition, the gravity of which was fully recognised, was still regarded as that of the so-called "typhoid pneumonia." Then came sudden pain in the abdomen, followed by collapse, by ballooning and the signs of perforation, with death within twenty-four hours of their appearance. No post-mortem examination was obtainable, but the history was, I take it, clear enough that a severe attack of enteric fever was ushered in and its recognition hidden by what at first sight appeared as an honest pneumonia. Whether this was a pneumonia coincident with enteric fever, or whether the lung state was only the result of the typhoid poison, it is difficult to decide; the association is, however, a rare one, as Murchison bears this testimony: "In rare cases it" (pneumonia) "occurs early in the attack and may be mistaken for the primary disease."

The diagnosis of meningitis occurring in the course of pneumonia is not always easy, because of the very frequent association with the pulmonary malady of marked cerebral disturbance. In typhoid fever there exists a somewhat similar condition of matters, with this difference that the anomaly takes the form of tubercular meningitis more frequently than that of the simple disease. That a certain proportion of the cases which are supposed to have recovered from cerebral fever are really recoveries from enteric fever is highly probable, and that this is not unlikely the following cases will show.

CASE 10.—An active boy aged ten, after making complaint for some time of malaise and weariness, was suddenly seized during the night with intense headache and urgent vomiting. His temperature when seen in the morning was found to be 102° and his pulse 120. He made complaint only of his head and of the annoyance that light and noise caused him. His tongue was slightly coated and his breath foul, but there were no discernible signs of change in the organs of his chest or his abdomen. A dose of calomel was given him, cold was applied to his head and he was carefully dieted. For a week he remained in much the same state, his temperature varying between 101° and 103°, and his pulse from 120 to 130. The headache was still severe, the vomiting continued to be more or less troublesome and constipation was pronounced. There was no evidence of splenic enlargement and the abdomen was not full. His eyelids, generally half closed, shaded pupils which, although equal, were slow in their reaction to light. On the eighth day there was a great change in his condition, his temperature had fallen to 101° in the evening, his pulse was a little over 80, slow and labouring; his pupils, fully dilated, were insensible to light; he lay on his side with his legs drawn up, and from time to time emitted the single sharp cry known as the "hydrocephalic"; "tache cérébrale" was extraordinarily well-marked: all this and with it

some enlargement of the spleen and a doubtful spot were discernible. And so he continued for another ten days, with a slow (50) and staggering pulse rate, with irregular breathing and with a steadily falling temperature, deeply unconscious to all around him and to all that befell him. Then gradually came the waking, gradually the increase in pulse rate and steadiness, the clearing of the tongue, the diminution in the size of the spleen and the restoration—very slowly—to a comparative condition of "bien-être."

CASE 11.—Again a child aged four years, of a very tuberculous family, other members of which had died of tuberculous disease, was, during an epidemic of typhoid fever, seized with the ordinary symptoms of a meningitis, screaming and vomiting, with a low temperature (100°), with a quick, somewhat irregular pulse, and with obstinate constipation. During the second week she had a very slow (50) and very irregular pulse and irregular breathing; fully dilated pupils, absolutely inactive to light; a right-sided squint; complete unconsciousness, and well-marked "tache cérébrale"; but she had a full abdomen, she had loose and suspicious stools, and she had the history of exposure to the typhoid poison. In the third week all her urgent symptoms had disappeared—disappeared quickly—and she is now, so far as I am aware, in vigorous womanhood.

Had either of these cases been presented to me for the first time in the second stage of their disease, and had I not possessed the suspicion which the early symptoms of their malady aroused within me, I would unhesitatingly have regarded them as cases of tuberculous meningitis and written their recovery in indelible letters on the folds of my memory. The difficulties of diagnosis from the lesion of tubercle do not end with its manifestations when attacking the cerebral meninges, for enteric fever may simulate very closely acute tuberculosis; of such a simulation this is the record.

CASE 12.—A married woman, with a strong family history of phthisis, was, after having had a slight cough for several weeks, suddenly seized with feverish symptoms and a certain amount of breathlessness. The medical man, who saw her soon after her illness began, believed that she was threatened with pneumonia; but as days passed and she became steadily worse I was asked by him to visit her. Then her condition was as follows: A pale, feeble, very anxious-looking woman, propped up in bed and breathing very quickly (her respiration rate from 40 to 50 per minute) and with apparent difficulty. She was slightly cyanotic and had a short constant cough. Her temperature (afternoon) was 101° (it had varied from 101° to 102°), her pulse quick and small (140) and her skin bedewed with perspiration, of which she had most profuse nocturnal attacks. On examining her chest there was found a slight dulness for two inches under the right clavicle, and in this situation there were audible subcrepitant râles. Over the rest of the chest the percussion note was fairly clear, but throughout the entire area of both lungs were to be heard sibilus and rhonchus, with abundant moist sounds. The cardiac sounds were normal but feeble, and the impulse quite imperceptible. There was enlargement of the spleen, and it was thought that a spot seen on the back might be that of enteric fever. A guarded prognosis was given—what was hopeful in it being founded on the possibility of the existence of typhoid fever—and so it proved. In the third week the temperature began to fall, the chest signs to clear up and the whole condition to improve, and the recovery she made, taken in connexion with her present condition of perfect health, tends to confirm the belief that after all her pulmonary condition was the outcome of the typhoid poison. This is rendered more probable by what her medical attendant told me, that after I saw her grave sanitary defects were found in her immediate environment. What arrested attention in this case—as it does in cases of acute tuberculosis generally—were the cyanosis, the rapid breathing and the quick pulse, associated with a comparatively low temperature. I am aware of the cases—not unlike this one in many respects—which Professor McCall Anderson has recorded as good recoveries from acute tuberculosis, but I think in the present instance that the detection of even one rose spot and the association of bad sanitary conditions, coupled with the rapidity and the permanence of recovery, tend to support the belief in an anomalous attack of enteric fever.

Whether it be true that new diseases are in process of evolution there can be no doubt of this, that we are now more able to differentiate ailments and that some well-known to us to-day were unrecognised by the profession generally twenty-five years ago. Amongst these is ulcerative endocarditis, the manifestations of which are often not straightforward and its diagnosis is at times obscure. The typhoid condition which marks it in one of its worst phases leads to its being regarded from time to time as an example of enteric fever, whilst in other cases in certain given circumstances the latter disease may closely simulate it. Thus:—

CASE 13.—A young lady aged twenty-four, in good sanitary surroundings, with no known exposure to zymotic influences, but complaining of rheumatic pains, of breathlessness on exertion and of failing general health, was seized with a severe rigor, intense headache, anorexia and vomiting. Seen on the evening of her attack, she was found to have a high temperature (104·2°), a quick pulse and slightly quickened respiration. She was exceedingly pale, she had a soft mitral bruit not conducted to the back and loud hæmic murmurs at the cardiac base and in the neck. There were no pulmonary signs and no enlargement of the spleen. As days ran she did not improve, her temperature was markedly irregular, her dyspnœa increased, her mitral bruit became louder and coarser, and her spleen slowly enlarged. She had, however, no epigastric pain and no albuminuria, nor had she after the onset any distinct rigors. Diarrhœa then made its appearance, not at first characteristic, but after a time ochre-coloured, alkaline in reaction and foul-smelling. And so during a considerable time, until by daily and careful observation rose spots were discovered and the diagnosis established. She ultimately made a complete but most tedious recovery, during which her cardiac condition improved somewhat, although a soft mitral bruit remained. Engrafted, as this attack of enteric fever was, upon a rheumatic and anæmic girl with evidence of cardiac dilatation, if not of slight mitral disease, and marching, as we know progressive endocarditis often does, by gradual increase in cardiac signs and symptoms—as witness the dyspnœa—it was only natural that for a time the diagnosis should be in abeyance, and I record the case as one of several in which in similar circumstances considerable anxiety as to the true nature of the malady has centred round the cardiac phenomenon.

(To be concluded.)

DISEASES OF THE EYE MOST FREQUENTLY MET WITH IN GYNÆCOLOGICAL AND OBSTETRICAL PRACTICE.[1]

BY A. MAITLAND RAMSAY, M.D.GLASG.,
SURGEON TO THE GLASGOW EYE INFIRMARY.

THE eye, from its peculiarity of structure and of function, demands special study and, when disease comes, special treatment; but it is necessary to be careful that specialism shall not go so far as to cause the eye to be considered as a part in the body, but yet not of it. On the contrary, the nutrition of the eyeball is governed at all times by changes in the nutrition of the body as a whole. It is quite a common thing to hear patients remark that their sight is not so good when they are feeling "out of sorts," and from the earliest times physicians have been alive to the diagnostic and prognostic importance of eye symptoms in general diseases. Long before the ophthalmoscope was thought of, the association of visual disturbances with various constitutional states, and especially with affections of the nervous system, had been carefully noted, and such symptoms as a dilated or a contracted pupil, a strabismus or an inability to close or open the eyelids had a proper value attached to them as aids to diagnosis. It is now known, thanks to recent methods of investigation, that changes in the eye may give the very first indication of the existence of diseased conditions in other parts of the body—e.g., double optic neuritis in intracranial affections, or the retinal changes characteristic of Bright's disease. By means of the ophthalmoscope the physician can now actually see changes in the bottom of the eye the nature of which in the pre-ophthalmoscopic days could only be guessed at. Instead of applying the vague and unsatisfactory terms "amblyopia" and "amaurosis" to every suspension of visual function, as had to be done before Helmholtz introduced the ophthalmoscope, one is now able to speak definitely and precisely of diseases of the optic nerve, of the retina, of the choroid &c., and so the ophthalmoscope has, as Clifford Allbutt

[1] An abstract of a paper read at a meeting of the Glasgow Gynæcological and Obstetrical Society on Feb. 22nd, 1893, and illustrated by coloured lantern slides.

put it long ago, brought about not only "a direct increase of knowledge, but also a great purification of method and of speech."[2] I wish to draw attention to the frequent association of certain eye symptoms with functional changes in the female genital organs—changes incidental to menstruation and its disorders, to pregnancy and the puerperal state and to the period of lactation. The important changes that occur when the age of puberty is reached profoundly influence the whole organism. In the occurrence of the catamenial discharge there is the development of a function with which the whole system sympathises and one can hardly be surprised that at this time certain eye diseases attain their maximum of frequency. Inflammation of the cornea, of the sclerotic, of the iris and choroid, and even of the optic nerve and retina, have all been noted; and though these affections must, for the most part, be regarded as coincident, rather than dependent, it must be admitted that even an apparently sound eye is markedly influenced by the occurrence of normal menstruation, whilst in a diseased eye the symptoms may be very considerably aggravated at the recurrence of the catamenia.

In a case which I have at present under my care—a woman aged thirty-seven, who has suffered from inflammation of the cornea and sclerotic for eight years, during the last of which she has been under my own observation—the eye is during an inter-menstrual period, with the exception of staining of the sclerotic and opacities of the cornea, almost well, whilst at the recurrence of the menstrual epoch there is a relapse. Two or three days before menstruation begins the eye becomes acutely inflamed and very painful and remains in this condition for the first few days after the menstrual discharge has appeared. Treatment, either local or constitutional, has up till now had very little effect in modifying the course and duration of these inflammatory attacks, which pass off spontaneously, only, however, to reappear as acutely as ever at the next monthly period.

There is no doubt that corneal affections are very frequent about the time of puberty; and if there be inherited syphilis very severe and protracted corneitis may result. Eruptive eye diseases—pustular or phlyctenular ophthalmia—are also very frequent at this time and show their close connexion with the menstrual function by a periodic relapse at the menstrual epoch. Mooren[3] relates a most interesting case of a girl of fourteen, who suffered from severe corneitis of both eyes, and who, in spite of the fact that every symptom of her molimina menstrualia was present, could not be brought to menstruate. Every four weeks she was seized with acute inflammation of the eyes, and for a whole year treatment was unavailing. When menstruation at length took place the eyes became quickly well. Apart, however, from any inflammatory disturbance, diminished visual acuteness and contraction of the visual field occur during normal menstruation. Finkelstein[4] has demonstrated that the limitation in the field of vision begins two or three days before the commencement of the flow and reaches its greatest intensity on the third or fourth day of menstruation, after which the normal state is gradually restored. The degree of limitation varies in different individuals and is always greatest in those cases where the general discomfort—manifested by headache, palpitation and other nervous symptoms—is most pronounced, and especially where the loss of blood is very abundant. He found also that there were disturbances in the colour-sense, and in 20 per cent. of his observations the perception for green was destroyed during the menstrual period.

I shall now pass from the eye affections, which are part of the series of phenomena which in some cases go to make up the clinical picture of normal menstruation, to those which are more or less the result of disordered menstrual function. For the present purpose it will be convenient to arrange them in two groups. There is, firstly, the period of puberty (or the period of sexual development), and, secondly, the climacteric period (or that indicative of the departure of sexual power). The establishment of the menses—development being then at its maximum—must exert an important influence on all the organs of the body, and when, therefore, anything occurs to interfere with the appearance of the catamenia at the usual time, or to cause suppression of the menstrual flow after it has once been established, it is not surprising that such irregularities should make themselves manifest by ocular troubles. In some rare cases a periodical discharge of blood takes place from some organ other than the uterus and the eye is not exempt from this vicarious menstruation. Lawrence[5] has recorded the case of a woman who suffered from hæmorrhage into the anterior chamber at the time when her menstrual period was due, and effusions of blood into the vitreous as a result of menstrual irregularities are of by no means unfrequent occurrence, though this is rarer in early life than at the climacteric. The old writers recognised two forms of eye affection, which they attributed to disordered menstrual function—amaurosis menstrualis and ophthalmia menstrualis. The first is a condition whose name gives no explanation of its true nature, and the other has two forms—a graver, said to be produced by suppression of the menses, and a simpler and more chronic, which was connected with retention of the menstrual discharge. Mooren, quoting from Samelsohn,[6] relates the case of a woman twenty-one years of age, who at the time of her menstruation went to bathe in a cold stream. Her discharge was immediately suppressed, and by the evening she suffered much from a feeling of painful pressure in the eyes and orbits. Twenty-four hours later her sight became dim, and by the end of the fifth day she was completely blind. The loss of sight continued for seven weeks, when, after the re-establishment of the menstrual function, recovery took place.

It is very difficult to explain in a satisfactory way the true pathological nexus existing between the uterine and the ocular condition in such cases. It has been pointed out by Mooren that irritation of any sensitive nerve has a reflex action upon other nerves, either of a similar or of different function, and its influence may be exerted upon bloodvessels the most distant from the point where the disordered action has originated. When one remembers the great nervous and vascular plexuses in connexion with the ovaries and the uterus one cannot wonder at the frequent occurrence of reflex disturbance in distant parts as a result of ovarian or uterine irritation. That vision is disturbed by such a cause is well known, and I need only cite as examples, those visual defects due to dental caries or to the irritation produced by the presence of intestinal worms. But another hypothesis must be mentioned. It has been supposed that toxic substances are eliminated from the body with each menstrual discharge and that, when the normal periodic elimination is interfered with, the poisonous materials retained affect the nutritive power of the blood. Probably both the reflex and the toxic cause have a *rôle* to play in the etiology of these eye affections in subjects naturally predisposed to nervous disturbances. Connected with amenorrhœa are frequently found various forms of neuro-retinitis. The treatment is obviously to try to restore the catamenial discharge, but in such cases the frequent existence of eye-strain, the result of uncorrected errors of refraction, has led me to the conclusion that astigmatism must be considered as one of the determining causes of the ocular disturbance. Many girls suffering from amenorrhœa also complain of persistent head pain, aggravated by the use of the eyes for near work. This is very frequently due to an ocular defect, in many cases so slight that, by an effort, the patient can exert the ciliary muscle sufficiently to overcome it and thereby attain clear and distinct vision, but at the cost of fatiguing and straining the muscle. In anæmia the ciliary muscle shares in the general constitutional weakness, and the exhaustion, especially in highly strung nervous persons, induces eye-strain, which is, in a large percentage of cases, the starting point of the head-pain. The persistence and intensity of this last are not proportionate to the amount of the error of refraction, as even in the cases where the ocular flaw is slight, and can be overcome by a strong effort of accommodation, the head-pain is frequently very severe. It is obvious, then, that no treatment by drugs will cure such headaches until by the use of appropriate glasses the eye strain has been relieved and the reflex source of irritation proceeding therefrom has been removed. In many instances the improvement is very slow, and until the blood-poverty is completely removed relapses from any over-use of the eyes are not uncommon. In exophthalmic goitre[7] anæmia or chlorosis is an almost constant accompaniment and disorders of the menstrual function are met with very frequently. The following is a typical case: The patient was a machinist about twenty-four years of age, who, nine months before I first saw her, began, as a result of domestic trouble, some-

[2] The Ophthalmoscope, London, 1871.

[3] Gesichtsstörungen und Uterinleiden, Archiv für Augenheilkunde, 1881, p. 519.

[4] Ophthalmic Review, No. 73, 1887.

[5] Diseases of the Eye, 1841.

[6] Berliner Klinische Wochenschrift, 1874.

[7] See my paper on Exophthalmic Goitre, Glasgow Medical Journal 1891.

what suddenly to develop all the characteristic symptoms of exophthalmic goitre. Her eyes were very prominent and could with difficulty be covered by the closed eyelids, but both the Stellwag and the von Graefe symptoms were absent. The thyroid gland was much enlarged, with the swelling most pronounced on the right side. Palpitation was very distressing and the pulse so rapid and irregular that it could not be accurately counted, but as far as could be made out there was no organic heart affection. She was steadily losing flesh and expressed herself as feeling very ill. The menstrual function was in abeyance. After treatment for more than a year by rest, nourishing food and general blood tonics her condition was very much improved. The exophthalmos, though distinctly noticeable, had become much less, and the swelling of the thyroid was greatly diminished and felt firmer on palpation, the right lobe being still the larger. The pulse was steady and regular and beating below 100 per minute. Tremor had practically disappeared, and there had been a considerable gain in weight. There was still nervousness and a tendency to excitement, but the patient was now able to be regularly at her employment and stated that her own feeling was that she was quite well. She still suffered from amenorrhœa. I again saw her on Feb. 13th, 1893, and found that she had been regularly at her work and had steadily gained in strength. She told me that very shortly after the re-establishment of the menstrual discharge, which had taken place nine months previously, the eyes became less prominent and the swelling in the neck almost entirely disappeared, and that she "felt quite different." The very great improvement which followed the return of the menses is worthy of note. As I have said, it is difficult to establish a reflex connexion between the eye and the genital organs, although one is almost forced to admit the probability of its existence. In this connexion the following case is interesting.

A married woman aged forty-seven, whom I first saw in October, 1887, complained of severe head-pain with dimness of vision. She read letters in No. 6 Jaeger with the right eye and in No. 6 with the left, and ophthalmoscopic examination showed that both optic discs were congested. Seven years before, when prostrated with grief on account of the death of her husband, she became suddenly blind, and for three or four weeks afterwards the power of vision came and went. After her recovery her vision troubled her only at the monthly periods, when, the more severe her sufferings from dysmenorrhœa, the more was her vision affected. A month after I saw her first her vision had deteriorated to No. 14 for the right and No. 8 for the left eye. The field of vision was contracted both for white and for coloured objects, and the ophthalmoscope revealed slight exudation along the coats of the bloodvessels where they passed over the optic disc. In March, 1888, at the monthly period, she suddenly lost sight in both eyes, and when I saw her she could not distinguish light from shade, but the pupils were active, of normal size, and equal, and the ophthalmoscope revealed no further change in the optic discs. Her eyelids constantly twitched. This attack of blindness came on suddenly and was accompanied by delirium for the first twenty-four hours; there was no paralysis and all that the patient complained of in addition to her blindness was great pain on micturition. After a fortnight vision returned as suddenly as it had disappeared, and by April the right eye was equal to 18 Jaeger and the left to 16 Jaeger. On Feb. 13th, 1893, I found that vision was exactly the same as it was on the day when I first saw the patient. Her optic discs were somewhat pale, but not atrophied, and the field of vision was practically normal. This occurred at about the time of the menopause and bears some resemblance to cases described by Förster under the name "kopiopia hysterica."

The attainment of the climacteric has very frequently, though not necessarily, a profound influence on the general health, and, until the new order of things is thoroughly established, causes the organism as a whole to suffer from excitement of the circulatory, and irritability of the nervous systems. Congestive changes, marked by painful and often causeless flushings of the head and face, by head-pain, and by giddiness, are very frequent; and when one recollects the close and extensive meshwork of the bloodvessels of the choroid, it is not surprising to find eye symptoms prominent. The conjunctiva is frequently congested, and the irritation of the enlarged bloodvessels gives rise to a feeling as if sand were in the eyes. As a result of transient hyperæmia of the choroid the patient complains of pain in the eyes, and these are tender on pressure and intolerant of light. In subjects predisposed to it, this surcharging of the choroidal vessels with blood may culminate in an attack of acute glaucoma. Rupture of intra-ocular bloodvessels and effusion of blood into the vitreous are not unfrequently met with. The hæmorrhage may be so copious that ophthalmoscopic examination affords no information as to the condition of the fundus; but where examination is possible the optic disc is seen to be red and swollen and its outline indistinct. The veins are large and tortuous, whilst the arteries are small and the fundus generally is bespattered with hæmorrhages, of which those in the inner layers of the retina present a flamelike appearance, whilst those in the outer are round or irregular in shape. Retinal hæmorrhage is often a symptom of degeneration of the bloodvessels generally, and is therefore a danger signal giving warning of the probability of the occurrence of cerebral apoplexy in the near future. At the same time visual defects, such as scotomata or hemianopsia, may result from cerebral hæmorrhage without any change in the fundus of the eye being visible. In forming a prognosis in a case of retinal hæmorrhage therefore, it is necessary to pay heed to the general condition of the patient as regards the state of the bloodvessels, as well as to the size and site of the blood clots.

In the last number of his Archives[8] Mr. Jonathan Hutchinson draws attention, under the name of post-marital amblyopia, to a form of almost complete blindness (the result of frequent sexual indulgence) where no changes are visible on ophthalmoscopic examination and where there are, as a rule, no concomitant nervous symptoms. In the three cases quoted—all in men, males seeming to be particularly subject to injury to vision from sexual excess—the recovery was rapid and complete after removal of the cause. No exactly similar cases have, so far as I know, been noted as occurring amongst women, but when pregnancy takes place the nutrition of the eyeball may, in different ways, be more or less seriously affected. Physiological research has demonstrated that, whilst during pregnancy there is an increase in the actual volume of the circulating blood, there is at the same time considerable deterioration in its quality, owing to a diminution in the red corpuscles and the albumen, and an increase in the white corpuscles, the fibrin, and the water. Changes due partly to malnutrition, the result of the alteration in the quality of the blood, and partly to the local irritation produced by the pressure of the enlarged uterus upon the surrounding structures, occur in the nervous system as a whole, and it is surprising, therefore, that the eyes, which so readily respond to any disorder of the vascular or nervous systems,[9] are not more frequently affected than is actually the case, for, according to Winckel's statistics,[10] the proportion is less than 2 per cent. Cases which are the direct result of blood poverty—e.g., failure in the power of accommodation, ulceration of the cornea &c.—will be considered later. By far the most important group of eye affections in pregnancy is that dependent on or associated with albuminuria—retinitis albuminurica of pregnancy. It is now known[11] that albumen exists in the urine in more than 20 per cent. of pregnant women, and in the case of primiparæ the percentage is considerably higher. The presence of albumen in the urine cannot therefore be looked upon so seriously when it occurs during pregnancy as it might be if its presence were detected in the non-pregnant condition; and in many cases it is unaccompanied by special symptoms. Before giving a prognosis, therefore, it is well to make a careful examination of the urine, not merely with reference to the amount of albumen it contains, but also as to the quantity passed in the twenty-four hours, its specific gravity, the percentage of urea, and the presence or absence of tube casts.

In uræmic amaurosis the patient, after having suffered for some time from the usual symptoms of uræmia, suddenly complains that everything is becoming dark, and in a few hours blindness is complete. On ophthalmoscopic examination no retinal lesion is discoverable; in a short time, provided the patient does not succumb to the uræmic attack, vision is restored to the normal. In one case of uræmic blindness which I had an opportunity of examining by means of the ophthalmoscope during an attack, the retinal arteries were

[8] Archives of Surgery, January, 1893.

[9] Bloding (Zeitschrift für Wiener Aertze, February, 1883) mentions the case of a woman in whom convergent strabismus was the first symptom of pregnancy; and Rampoldi (Rapporti morbosi esistenti fra l'apparato sessuale e il visivo, Milan, 1881) mentions the case of a patient who became blind during her first, deaf during her second, and dumb during her third pregnancy.

[10] Berichte und Studien, Dresden, 1876.

[11] Leishman, System of Midwifery, Glasgow, 1890.

seen to be smaller than normal, and it is easy to understand how a similar contraction of the arterioles in the brain, brought about by the presence of excretory matters circulating in the blood, may act on the visual centres so as to produce for the time being a complete suspension of function. That the lesion in uræmic amaurosis cannot be located in the optic nerve, but higher in the brain, is shown by the fact that, as a rule, the pupillary reflexes are preserved. The presence or absence of the reaction of the pupils to light is, indeed, an important factor in prognosis, as in those cases in which they are dilated and fixed, the recovery, although complete for the time being, is apt to be followed by frequent relapses, which end in total blindness from atrophy of the optic nerve. Moreover, the degree of the visual defect also affords perhaps the safest of all prognostic guides in enabling the physician to judge how far an individual patient can safely tolerate the presence of urea in excess circulating in the blood.

In albuminuric retinitis proper there may be gross retinal lesions detectable by the ophthalmoscope, and yet the patient may make very little complaint of defective eyesight. In nearly all cases the vision is gradually reduced, but is seldom completely destroyed. Once sight is lost, however, the defect differs from that due to uræmia in the fact that it is more or less permanent, and, when complicated by uræmic poisoning, may pass for the time being into complete blindness. A typical case of albuminuric retinitis presents a very characteristic ophthalmoscopic picture. The pathological changes are, for the most part, confined to the central parts of the fundus. In addition to the usual signs of retinitis there are a number of minute, glistening, brilliant white spots arranged in a more or less complete star around the macula as a centre The changes in the optic disc are of an inflammatory nature and vary in degree from a simple obscuration of the edges of the disc to a condition in which the papilla has become so swollen that the appearances presented are with difficulty to be distinguished from an inflammation of the optic nerve due to cerebral disease.

In the more chronic cases of Bright's disease œdema may be entirely absent, and a slightly increased vascularity of the optic disc, associated with the presence of a few white spots round the macula, may be all that can be detected on ophthalmoscopic examination. The appearance of the disc in such cases resembles that seen in various forms of neuritis due to the introduction of poisons from without—e.g., lead, alcohol &c.—and is probably brought about by the irritant action of the morbid poisons which are generated within the system and circulate in the blood as a result of the renal inadequacy. In an ordinary case of renal disease the occurrence of albuminuric retinitis adds very considerably to the gravity of the prognosis, but in the albuminuria of pregnancy recovery is frequent. Power[12] records and gives drawings relating to a case in which after an abortion at the seventh month recovery took place, though the vision had been reduced to little more than a mere perception of light, and the quantity of albumen amounted to about one-sixth. In such cases, too, one eye only may be affected. During pregnancy separation of the retina may occur by itself or may complicate albuminuric retinitis, but even this grave complication, as a rule so hopelessly fatal to vision in ordinary circumstances, admits of more favourable prognosis in the pregnant woman. I know of a case where there was a retinal detachment in both eyes and in which vision was restored after the confinement. Although the treatment of such cases ultimately falls almost entirely into the hands of the obstetrician, the ophthalmoscopic examination may afford valuable indications. When hæmorrhages are present in the retina it is manifest that there is an altered condition existing between the blood, the bloodvessels, and the surrounding parts, and our therapeutic resources must be directed to the restoration of the lost balance between these. Moreover, the occurrence of retinal lesions indicates an advanced condition of the renal disease, and this raises the question as to the induction of abortion or of premature labour, on account of the danger to the life of both mother and child. Albuminuria occurs most frequently during the last few weeks of pregnancy, and at this time also the eye symptoms for the most part appear, so that, unless the inflammation of the retina be unusually severe, the induction of premature labour is in the majority of cases hardly warrantable. It is quite different, however, in those cases in which albuminuria and eye symptoms are present early in the pregnancy, as in such cases the danger to the mother's sight from the prolonged retinal inflammation, the danger to her life from the occurrence of convulsions, and the danger to the child from the uræmic state of the blood, abundantly justify the production of abortion.

Embolism of the central artery of the retina occasionally occurs during the puerperal state. Here, after the violent inflammation has passed away, the optic disc becomes pale and atrophied, and, on account of the absence of anastomotic connexions, the blood-supply is, when a block occurs, completely cut off from the retina, and blindness, sudden and complete, is the result. McKenzie[13] mentions several cases in which, after delivery, there was ophthalmitis due to "inflammation of the uterine veins and the introduction of pus into the circulation." Constitutional symptoms quickly follow in such instances and as a rule the patient dies of exhaustion with all the signs and symptoms of pyæmia. When there has been severe post-partum hæmorrhage marked diminution of vision has occurred, followed by atrophic changes in the optic nerve, ending in complete blindness. Complications at the confinement may also have an injurious effect on the eyes of the child, which may be hurt by the application of the forceps even in the hands of the most skilful accoucheur. Ophthalmia neonatorum also deserves notice on account both of its frequency and of its disastrous results. It has its origin in specific contagion, and in virulent cases a special micro-organism, called by Neisser the "gonococcus," is found both in the vaginal secretions of the mother and in the purulent discharge from the eyes of the infant. In cases that are, from the first, treated carefully there ought certainly to be recovery, but neglect will invariably result in corneal ulceration, which may, and probably will, completely destroy vision. Care should be taken by disinfecting all vaginal discharges to prevent, if possible, inoculation during labour or immediately after birth; and Credé, by systematic prophylactic treatment, reduced the percentage of cases of ophthalmia neonatorum in the lying-in hospital at Leipsic from 7·5 to 0·5. Curative treatment should be directed to keeping the eye thoroughly clean (any weak antiseptic solution, such as bichloride of mercury, 1 in 10,000, or a saturated solution of boracic acid will do), the bathing being carried out thoroughly every hour and special care taken that the stringy muco-pus which gets lodged in the upper and lower conjunctival culs-de-sac be completely removed.

I have only time to refer very briefly to those eye affections which are more or less the result of lactation. Whether it be mere coincidence or not, cases are met with every now and then where blindness, due to atrophy of the optic nerve, occurs in women who have nursed several children in rapid succession; but by far the most frequent conditions met with are functional disturbances due to impairment in the power of accommodation. It is not surprising that the effort to secrete, for several months, milk sufficient for the nourishment of a healthy infant should not be accomplished without considerable exhaustion of the system. The muscular apparatus of the eye shares in the general weakness, and a patient who, previously to the birth of her child, was able to see clearly and comfortably, now complains that small print gets blurred and confused when looked at, and that the effort to read is accompanied by distressing sensations in the head and by pain, lacrymation, and even redness in the eyes themselves. That these symptoms are due to weakness in the power of accommodation and convergence is not difficult to understand when one recollects the mechanism by means of which these acts are accomplished. Obviously, therefore, long-sighted women suffer most frequently. It will at once be evident that the proper and only treatment in such cases is to supplement the power of the ciliary muscle by the use of convex glasses to be worn for all near work; and, as a rule, when once the spectacles are properly adjusted the unpleasant symptoms gradually disappear, and the relief obtained is real and lasting. In addition, every effort should be made to improve the general health, and in extreme cases it is necessary to wean the child. A scratch on the cornea—not an unusual thing for a mother to receive from the nails of her infant—is, of all the slight injuries to the eye, one of the most difficult to heal. There seems in some cases a marked tendency to suppuration and accumulation of pus in the anterior chamber. I simply mention this for the purpose of emphasising the fact that even the most trivial injury to the cornea of a woman who is suckling a child demands prompt treatment. I have seen episcleritis appear

[12] Transactions of the Ophthalmological Society, vol. viii.

[13] Diseases of the Eye, London, 1854.

for the first time when the health of the patient was enfeebled by prolonged lactation and can confirm Power's observation that women who are nursing children are predisposed to the occurrence of "obstruction of the lacrymal ducts and lacrymal abscess."

I have drawn attention to this subject at considerable length, because, although there are several special monographs[14] which treat of it exhaustively, yet in the ordinary text-books it is dealt with very briefly.

Glasgow.

A CASE OF MELANCHOLIA; SUDDEN ILLNESS AND DEATH.

BY FRANK ASHBY ELKINS, M.B., C.M. EDIN.,
SENIOR ASSISTANT PHYSICIAN, ROYAL EDINBURGH ASYLUM.

A MAN aged forty-five, married, was admitted to the Royal Edinburgh Asylum on May 25th, 1889. A sister of the patient had had an attack of mania and had recovered. He had had a precisely similar attack of hypochondriacal melancholia six years before admission, the symptoms not being quite so severe, and after a year's duration he had recovered perfectly and had remained well for five years. He was a thick-featured, fairly well nourished, rather lymphatic man, with a most woful expression. He affirmed that nearly every organ of his body was diseased, that his bowels never acted, that he was dreadfully weak and ill, and, in fact, that he was dying. Repeated physical examinations always gave negative results. His bowels were only slightly costive, and it seemed evident that he greatly exaggerated his unpleasant sensations. He was, however, sleepless and he had dyspepsia, as was shown by a furred tongue and by very occasional vomiting, the latter being at least once induced by his putting his finger down his throat. Under treatment he at first rapidly improved mentally and gained in bodily weight; he attended and enjoyed the weekly dances, played lively airs upon his violin and seemed a most promising case. Unfortunately a relapse occurred. Not satisfied with two medical visits a day, he used to send letters to me as well. On Feb. 11th, 1890, he wrote: "I endure unsufferable agony; I fear to perish in this terrible state; I entreat you to examine my stomach and bowels." At that time he had gained twenty-one pounds in weight since admission; he slept fairly, his appetite was good, his dyspepsia was better and he was doing garden work, but he had a craving to be examined, he had a constant wish to take purgatives and other medicines, and he even asked for operative treatment.

On Feb. 14th I was hastily summoned to him. After having had a good breakfast he had been seized with violent abdominal pain, and when seen he was kneeling in a bent position on a chair moaning and crying out with the severity of the pain. He was extremely restless and greatly agitated. There was considerable collapse, the pulse being thready and only 40 per minute, a cold perspiration covered his skin and the extremities were livid and cold. The pain was greatest over the epigastric region, but a proper examination was impossible as the muscles were rigid and the patient was quite doubled up as well as being very restless. Under treatment he improved considerably, so that, taking into consideration his great tendency to exaggerate, a hopeful view was taken of the case. By 2 P.M. the pain was much less; the pulse, though weak, was 80 per minute; the temperature was 97·4° F.; and although he was exhausted his general condition, on the whole, seemed improving. During the night he again became restless, was weaker, looked very anæmic and had a fainting fit. In the morning he began to vomit and this continued till his death, which took place in the evening. The vomited matter was chiefly clotted milk, brandy and a little bilious mucus, but it was never stercoraceous. Early in the afternoon he was seen in consultation with Dr. Burn-Murdoch. He had rapidly become worse; the pulse was not to be felt at the wrists, the expression was anxious and deathly pale, the vomiting continued, the respiration was deep and sighing, and generally he was exceedingly weak. The pain was now most severe over the lower part of the abdomen. Normal fæces came away when an enema was given. He died at 8.10 P.M., thirty-five hours after the onset of the acute symptoms. The diagnosis was perforation with intra-peritoneal hæmorrhage.

At the post-mortem examination, performed by Dr. W. H. Barrett, it was found that about three and a half feet of the small intestines had become strangulated in consequence of passing through what appeared to be a congenital slit in the mesentery.

Remarks.—This case once more emphasises the fact that delusions, especially those relating to the viscera, often have real bodily causes for their foundation. The theory may be advanced that the intestines had always, or at least for some time, moved backwards and forwards through the congenital slit. The discomfort and uneasy feelings thus produced, acting upon a hereditarily weak brain, had induced the mental illness. Lastly came strangulation and death.

Morningside, Edinburgh.

[14] Amongst these may be mentioned Power's Bowman Lecture, Transactions of the Ophthalmological Society, vol. viii.; Cohn's Uterus und Auge, Wiesbaden, 1890; Oursel, Contribution à l'Étude des Affections Oculaires dans les Troubles de la Menstruation, Paris, 1885; and Berger, Les Maladies des Yeux, Paris, 1892.

ASSOCIATED MOVEMENTS OF THE UPPER EYELID AND LOWER JAW.

BY W. M. BEAUMONT,
SURGEON TO THE BATH EYE INFIRMARY.

SYNCHRONOUS MOVEMENTS of the upper lid and lower jaw have during recent years been frequently recorded, and quite recently Dr. O. Bull of Christiania has published one such case in the *Archives of Ophthalmology*.[1] The patient, a boy aged sixteen, was suffering from congenital ptosis of the left eye, and it was observed that when he opened his mouth, in eating or speaking, there was a corresponding upward movement of the left eyelid. To avoid the disfiguring appearance of the ptosis as far as possible he generally kept his jaws apart. This upward movement of the lid was also found to occur when he threw his head back. Dr. Bull suggests the hypothesis that the contractions of the levator palpebræ are reflex or associated. In a remarkable case of left congenital ptosis reported by Mr. Marcus Gunn[2] there was an

FIG. 1.

associated movement of the left external pterygoid muscle and the left levator palpebræ. Any lateral movement of the jaw in the direction of the right side (contraction of the left external pterygoid), as in eating or speaking, caused an upward movement of the left lid. The case was thoroughly tested by a committee consisting of Dr. Gowers, Dr. Stephen Mackenzie, Mr. Lang and Dr. Abercrombie, and the conclusion they arrived at was that "some of the fibres of the levator palpebræ portion of the third nerve arise, not from the nucleus of the third, but from that of the fifth." The following notes of a case in my own practice seem of interest in connexion with this subject.

A child aged two years and two months was brought to the Bath Eye Infirmary in May, 1891, suffering from congenital

[1] Vol. xxi., p. 354.
[2] Transactions of the Ophthalmological Society, vol. iii., p. 283.

ptosis and epicanthus of both eyes. There was no visible action of the levators and the upper and lower eyelids were separated from each other by a mere chink between which the cornea could scarcely be seen. When the child wished to use his eyes he assumed the usual attitude in such cases, throwing his head back and looking under the immovable upper lids. But what caused even more distress to the parents than the ptosis was the fact that when their child attempted to use his eyes he invariably opened his mouth. The idiotic expression which this produced was very marked, and the parents were very anxious to have it

FIG. 2.

corrected. This condition is very well seen in Fig. 1, taken from a photograph. When, however, the head was held forward, as in Fig. 2, all attempts at looking were given up and the mouth remained closed. There was no movement of the lids when the mouth was opened. A plastic operation was performed, which neutralised in great measure the effect of the ptosis, and at the same time, much to the parents' satisfaction, the boy no longer went about with his mouth open. Fig. 3 shows the condition of affairs eight months

FIG. 3.

after operation. Before bringing the child for treatment the mother had vainly tried to teach him to keep his mouth closed, but she invariably found that as soon as any object presented itself of sufficient interest to attract his childish attention the head was thrown back and the jaw fell.

The explanation of this case may be that the boy in throwing back his head put the depressor muscles of the jaw on the strain, to relieve which he opened his mouth. But, if so, why when the ptosis was cured did he not still open his mouth whenever he threw back his head, as, for instance, in looking at the ceiling? May it have been that before the operation he not only had to throw back his head, but als had to contract his superior obliques and inferior recti in order to bring his eyes into use and that, improbable as it may seem, there was an associated movement of these muscles with his digastrics? But if it were so this does not explain how the simple expedient of an operation for ptosis could cure such a congenital association.

St. James's-square, Bath.

CASE OF

EMBOLISM OF THE PULMONARY ARTERY, DEATH OCCURRING SIX AND A HALF HOURS SUBSEQUENTLY.

BY CHARLES GAYFORD, M.D. DURH., L.R.C.P. LOND., M.R.C.S. ENG.,

LATE HON. SURGEON, BLACKHEATH AND CHARLTON COTTAGE HOSPITAL.

THE following case is one of interest because it raises again the question so often debated as to the cause of death coming on suddenly where there obviously exists evidence of recent obstruction of the pulmonary circulation, and it seems the more appropriate to publish the case now on account of the interesting discussion on Dr. Pitt's communication upon Thrombosis of the Pulmonary Artery without Infarction at a recent meeting of the Pathological Society.[1] Upon the pathogenesis of the conditions found in such a case the following historical sketch which Juergensen gives at the opening of his chapter on Embolism as a Cause of Pneumonia in Ziemssen's Cyclopædia, vol. v., p. 245, will be of interest: "Pneumonia from embolism has no doubt always existed, but its recognition is one of the achievements of modern times. Those interested in the literature of embolism will find what seems to be an exact compilation on this subject in Cohn. The conditions presented by this disease were first thoroughly treated of in Laennec's work, the title of the chapter being 'Pulmonary Apoplexy.' The anatomical description is clear and unequivocal, and the description of symptoms is appropriate, all the main points being noticed. The fact that the pathogenesis of this affection escaped the ken of that great inquirer is to be explained by the profound obscurity which at that time involved all those facts upon which our modern teaching of embolism rests. These were brought to our knowledge by the pioneer labours of Virchow, assisted in many directions by the valuable additions of Panum and finally by the conclusive observations of Cohnheim. All these authors paid special attention to embolism of the lungs in particular." In the discussion at the meeting of the Pathological Society above referred to, Dr. Samuel West pointed out that "secondary pulmonary thrombosis was very common in slow death, the thrombus extending from the heart into the artery and very rarely occluding that vessel; but he believed that primary and local thrombosis of the pulmonary artery was a very rare disease." The president, Sir George Humphry, said "he could not explain why it was that people with pulmonary thrombosis sometimes died so very suddenly. At the same time it should be remembered that cases with marked symptoms of blocking of the pulmonary artery often recovered."

A lady aged fifty-two was first seen on June 17th, 1892, at her residence. She had been ailing for some three or four weeks, but was not confined to bed and refused to see a medical man though often urged to do so. She took to her bed for the first time on the above date. Her face was flushed; there were no sordes on the lips; the tongue was thickly coated with a white fur to its edges, with no brown discolouration in the centre. The respirations were 22; there was good expansion on both sides of the chest; there was a slight area of dulness along the lower edge of the base of the right lung; moist crepitations were present on auscultation; otherwise the physical signs in the lungs were negative. The heart sounds were normal, with the exception of accentuation of the pitch of both first and second sounds and acceleration of the rate of the contractions. The pulse was 112, full, but with no marked increase of tension. The liver was slightly enlarged. There were no signs of gastric disturbance; no tenderness could be detected on palpation over the abdomen; there were no spots. Urine was freely passed and was free from albumen through-

[1] Vide THE LANCET, Feb. 4th, 1893.

out. There had been diarrhœa, which had passed off. No ovarian or uterine disorders could be traced. Menopause had occurred six years previously. The temperature was 104° in the mouth. When seen late in the evening it was 104·2° and the pulse 120. A saline mixture containing carbonate of ammonia was ordered, as also were turpentine stupes over the lower portion of the base of the right lung, and antipyrin in doses of fifteen grains every four hours. I should have said there were no swellings in any of the joints.

June 18th.—Her daughter—her nurse throughout the first four days—reported she had had a quiet night. The signs of pulmonary mischief were not found. The temperature in the morning was 103°, the pulse 110. Mr. A. Boyle Thompson saw the case with me during the day. He found nothing in the lung to account for the grave symptoms, but he suggested acute blood poisoning.

19th.—The morning temperature was 103·2°, the pulse 100. The evening temperature was 102·8°, the pulse 100.

20th.—The temperature in the morning was 103·4°, the pulse 108. The evening temperature was 104°, the pulse 100. The conditions remained unchanged. She was partaking freely of slop diet: milk, eggs, beef-tea and brandy. As her bowels had not acted she had a powder containing compound ipecacuanha powder and subchloride of mercury, of each three grains. Five loose evacuations resulted. The stools contained nothing that helped one to a diagnosis. Her mixture was changed for one containing chlorine water and sulphate of quinine; antipyrin was discontinued, as it had failed to reduce the temperature.

21st.—The morning temperature was 101·6°, the pulse 98. The noon temperature was 102°, the pulse 100. The evening temperature was 101·4°, the pulse 98. One great difficulty in the management of the case was the refusal of the patient, who was a widow, to have anyone in to help her daughter to nurse her; but in spite of her persistence the services of two excellent trained nurses from an institution in the neighbourhood were secured. Mr. A. Boyle Thompson saw the case with me again.

22nd.—The morning temperature was 100·4°, the pulse 104, dicrotic. The noon temperature was 101·2°, the pulse 108. The evening temperature was 101·2°, the pulse 100. She complained in the evening of pain in the left knee, but nothing abnormal was visible.

23rd.—The temperature in the morning was 100°, the pulse 104. The noon temperature was 98·4°, the pulse 100. The evening temperature was 100·6°, the pulse 120. The pain in the left knee had become greatly aggravated, and the patient complained of such tenderness as to make the weight of the bedclothes uncomfortable. On examination, marked swelling of the whole limb was found; the skin was shiny and marked by purplish streaks. The internal saphenous vein stood out with great clearness along the whole of its course from the saphenous opening downwards, and the skin over it was exquisitely tender. There was clearly thrombosis of the left femoral vein and possibly also of the external iliac. Absolute rest was imposed; the limb was enclosed in wadding and raised upon soft pillows, and the skin over the vein painted with belladonna liniment.

24th.—I was summoned early in the morning and found the patient collapsed, with urgent dyspnœa, greatly impaired movement of the right chest, and imperfect respiratory murmur over the middle and lower lobes of the right lung. In the subclavicular space and at the apex there was free air entry, as also all over the left lung. The pulse was very rapid and feeble, sometimes flickering. The patient was conscious, but drowsy. Later, as death approached, hypostasis occurred, involving both sides. The attack of urgent dyspnœa came on suddenly about 2.30 A.M. and death occurred about 9 A.M.

Juergensen in his article says: "The sudden closure of a main branch of the pulmonary artery usually ends in death so soon, producing the most violent dyspnœa and instant collapse, that there is no time for the occurrence of further structural changes. Sometimes the closure takes place gradually by the deposit of fibrin upon an embolus lodged within the pulmonary artery. Then those large infarctions are produced involving a whole lobe. I lately saw a case in which the middle and lower lobes of the right lung were completely infarcted. The main arterial branch of the right lung was filled with a brownish-red, moderately firm thrombus. The patient was aged sixty-eight and had cardiac disease. Embolism was caused by the escape of a clot from the right auricle."

In my case no necropsy was allowed, but all the symptoms point clearly to the conclusion that here was a case of acute septicæmia leading to extensive thrombosis of the veins of the left lower extremity and that a portion of the clot was dislodged and passed through the heart on the right side and into the right pulmonary artery, where it became fixed. The cause of death seems to have been clearly collapse. The interesting point of inquiry seems to be: Why should such an accident set up fatal collapse? The patient had taken nourishment well and strength had been sustained. The area of pulmonary tissue cut off by the embolism from vital function was, so far as one could observe, much less than is often the case in many serious cases of pneumonia which recover and do well subsequently. Of course there are the further points in a case of this kind: Suppose the patient to have rallied from the collapse, was the plug septic and would not gangrene have supervened? These and other contingencies suggest themselves, but further consideration is not called for.

Fleet-street, E.C.

AN ANALYSIS OF ONE THOUSAND CASES OF PRIMARY SCIATICA, WITH SPECIAL REFERENCE TO THE TREATMENT OF ONE HUNDRED CASES BY ACUPUNCTURE.

BY E. VALENTINE GIBSON, M.D. EDIN.,
FORMERLY SENIOR MEDICAL RESIDENT, DEVONSHIRE HOSPITAL, BUXTON.

THESE are consecutive cases and were treated at the Devonshire Hospital, Buxton, over 200 cases coming under my observation, the remainder being extracted from the case-books of the hospital. I find that 884, or 88·4 per cent., occurred in males, and 116, or 11·6 per cent., in females—a proportion of nearly 8 to 1. With regard to the side affected, 443, or 44·3 per cent., had the affection on the right side, 483, or 48·3 per cent., on the left side, and 74, or 7·4 per cent., had both sides affected. As to the age when the affection first commenced, 14, or 1·4 per cent., contracted the disease between the ages of fifteen and twenty; 159, or 15·9 per cent., between the ages of twenty-one and thirty; 310, or 31 per cent., between the ages of thirty-one and forty; 248, or 24·8 per cent., between the ages of forty-one and fifty; 187, or 18·7 per cent., between the ages of fifty-one and sixty; 71, or 7·1 per cent., between the ages of sixty-one and seventy; and 11, or 1·1 per cent., between the ages of seventy-one and eighty. In 132, or 13·2 per cent., there was accompanying lumbago, and 123, or 12·3 per cent., followed the occupation of miners. The percentage of cases with lumbago is probably too low, as in a large number of cases it was not the first attack that they were being treated for, and in giving their history some of them probably omitted the fact that their first attacks of sciatica commenced with lumbago, the pain in the leg absorbing their attention. These statistics show that 55 per cent., or more than half the cases, occurred during the prime of life. This fact shows a marked contrast to rheumatoid arthritis of the hip-joint, which so often gives rise to secondary sciatica, as is illustrated by the following statistics. Of 35 consecutive cases treated at the Devonshire Hospital, Buxton, 40 per cent. occurred between the ages of sixty-one and seventy, 22·8 per cent. between the ages of fifty-one and sixty, 20 per cent. between the ages of forty-one and fifty, 8·5 per cent. between the ages of thirty-one and forty and 8·5 per cent. between the ages of twenty-one and thirty. Of these, 96 per cent. were males and 4 per cent. females. From the age, large percentage of males and absence of constitutional disturbance in rheumatoid arthritis of the hip-joint it would seem that this disease is distinct from polyarticular rheumatoid arthritis, the majority of cases in this affection occurring at an earlier age, being more frequent in the female sex and accompanied by such marked constitutional disturbance. The results on discharge from the hospital of 100 consecutive cases of sciatica treated by acupuncture are as follow: 56 per cent. were cured, 32 per cent. were much improved, 10 per cent. were improved and in 2 per cent. there was no improvement. These results I consider very satisfactory, considering the chronic nature and the severity of the majority of the cases. All these were treated by acupuncture and they all used the Buxton thermal water, which

has such a great and deserved reputation for the absorption of inflammatory products. Acupuncture I consider very valuable. Dr. Gowers states:[1] "Simple acupuncture along the course of the nerve has been recommended; it gives temporary relief, as does any superficial pain, but the cases are very few in which it has a permanent effect." I presume he must refer to cutaneous acupuncture and not to acupuncture of the nerve itself, which was the method employed in these cases. The patient can always tell when the nerve has been pierced by pain shooting down the leg. The needles ought not to be left *in situ* for any length of time but withdrawn immediately, as unless this is done severe pain is often caused on their withdrawal and no better results seem to follow this line of treatment. A single spear-pointed needle two and a half inches long is all that is required, as the depth of tissue to be pierced can be regulated according to the situation and the development of the patient. If the nerve is not pierced on the first introduction of the needle it can be partially withdrawn and entered again at a somewhat different angle, and in this way the nerve may be pierced in several different places with but one cutaneous puncture. The nerve should be pierced about five times over the parts where there is pain on pressure. The external popliteal nerve to the inner side of the biceps tendon may also be pierced if it is painful, and as it is not covered by muscle this can easily be done. There is often pain situated on the outer side of the leg, which in all cases I think cannot be due to "referred pain." The musculo-cutaneous nerve may be punctured along the whole of its course, but being of small size and lying deeply it is naturally more difficult to pierce; but, even if the nerve is missed, the needle, passing in close proximity, must exert counter-irritation. These cases, without exception, I consider were due to an inflammation of the nerve sheath, this affecting primarily the adventitious tissue, and in more severe cases spreading into the interstitial tissues—a peri-neuritis and an interstitial neuritis respectively. This condition would account for the various symptoms, sensory and trophic, such as pain, tingling sensations and the wasting of muscles supplied by the affected nerve, and also those supplied by the small sciatic, when the disease affects the lower portion of the sacral plexus.

As I have had no opportunities of post-mortem examination I quote from Dr. Gowers:[2] "In most cases that have been examined distinct evidence of neuritis has been found, chiefly involving the nerve sheath, but extending in some cases into the interstitial tissue. In recent cases there are swelling and redness of the sheath and sometimes there are small hæmorrhages, and in seven cases similar, but slighter, alterations in the interstitial tissue with secondary damage to the nerve fibres. The signs of inflammation are most intense at the sciatic notch and opposite the middle of the thigh. They may be limited to one or both of these places, or they may be greatest there and extend in slighter degree over a considerable tract of nerve." Considering this to be the true pathology of sciatica, the treatment by acupuncture is a rational one, more especially in the earlier stages of the disease, but even in the later stages puncturing the thickened nerve sheath may promote absorption. If the nerve is pierced in a number of places over the inflamed area, where there is congestion of vessels and consequently exudation of serum and small-celled infiltration, it must give an outlet, however small, to more or less of the exudation; also dilated bloodvessels must be pierced, thus relieving tension in two ways and favouring the process of absorption. Rest is necessarily most essential, as it is in other inflammatory conditions. A rheumatic or gouty diathesis should be treated by appropriate remedies, as they are often a predisposing cause. The more chronic the sciatica is the more difficult is the cure, as organisation of the effused material must take place in a large number of cases, and this must be a source of irritation and a nidus for subsequent relapses. In cases of secondary sciatica due to rheumatoid arthritis of the hip-joint a slight temporary relief only is obtained by acupuncture, as the source of the irritation cannot be eliminated. Whether this irritation is due to pressure of the enlarged capsule of the joint on the nerve or to the changes in the joint, giving rise to a neuritis of the nerve fibres supplying the joint and spreading from there to the trunk of the sciatic nerve, is a point requiring investigation.

In conclusion, if every case of sciatica beginning acutely or subacutely were to be treated by absolute rest, together with acupuncture, repeated if necessary at intervals of a few days, and at the same time any rheumatic or gouty tendency were treated by suitable remedies, I do not think there would be the number of chronic and relapsing cases that one so often sees.

Victoria Infirmary, Glasgow.

[1] Diseases of the Nervous System.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

CASES OF ACUTE MANIACAL DELIRIUM TREATED BY INHALATION OF CHLOROFORM AND HYPODERMIC INJECTION OF MORPHIA.

BY T. CHURTON, M.D. ABERD.,
SENIOR PHYSICIAN TO THE LEEDS GENERAL INFIRMARY.

IT has often been found necessary to give rather dangerous doses of morphia (or of hyoscine) to patients who have become violently delirious during an acute disease. Thus a medical friend informs me that in the case of a woman aged thirty-eight, subject to epilepsy about the menstrual periods, who became maniacal, he was compelled to inject subcutaneously a grain and two-thirds of acetate of morphia within half an hour, the first dose of five-sixths of a grain having had no effect. The patient slept for sixteen hours. In another case a grain of morphia was given as an initial dose to a man aged thirty-seven for mania in acute pneumonia. Again, patients are occasionally kept long under the influence of chloroform for mania, severe chorea &c., but are found to be not improved when the chloroform is stopped. By combining these two methods much less of each drug is required, and the application of them is easy and comparatively free from risk except, of course, in cases where even the smallest ordinary dose of morphia is inadmissible owing to idiosyncrasy, renal disease or some other cause.

CASE 1.—A man aged thirty-two, fairly strong, but having undergone much anxiety in business, suffered from acute pneumonia. On the evening of the fourth day he began to shout "murder" very rapidly and loudly, struggled to escape &c. I saw him after two hours, in consultation with Mr. C. V. Newstead. He refused drugs and violently resisted hypodermic injection of morphia (⅓ gr.); after the injection he shouted even more loudly. Chloroform was then administered for a few minutes; he slept four hours. On awakening he again shouted and struggled; the chloroform and morphia (⅓ gr.) were repeated; he slept three hours. A third time it was necessary to use the combined method of inducing sleep; after four hours he awoke calm, and afterwards recovered in the ordinary way.

CASE 2.—A man aged twenty-one had rheumatic fever and evinced chorea, sudden mania, shouting and struggling. Chloroform and morphia (⅓ gr.) were administered; in three minutes he was asleep and slept three hours. I did not see him again; I am told, however, that afterwards bromides, chloral and hyoscine were successively tried, but chloroform and morphia were again necessary. He recovered.

CASE 3.—An ironworker aged thirty-three, admitted with acute pneumonia on the fourth day, was slightly delirious. He was a free drinker of beer, had had cough for several months, and had been distinctly ailing for three weeks. The crisis occurred on the day after admission; temperature, morning 103°, evening 98·8°; but delirium increased so that when the temperature was normal he became maniacal, fought for his clothes, shouted, used threatening and violent language, and would take neither medicine nor food; he also refused to empty his bladder, though it was obviously much distended. One-sixth of a grain of morphia was injected at 9 P.M. and again at 9.30 P.M., but without effect. I saw him at 11 P.M. He was put under chloroform; the pulse was then found to be small, rapid and variable in force. One-third of a grain of morphia was injected into the arm with twenty minims of brandy; the urine was drawn off and a nutrient suppository given; after a few minutes the chloroform was stopped. He slept until 3 A.M., but awoke as delirious as before. Chloroform and morphia were repeated; he slept five hours. Still excited, but took some milk; slept

again; awoke at 9.30 A.M. quite sensible and calm. In three weeks he left the hospital quite well. I have not tried the combined administration of chloroform and hyoscine.

Leeds.

DISLOCATION OF THE LOWER END OF THE ULNA.

BY W. MAKEIG JONES, M.R.C.S., D.P.H. CAMB. &c.

ON March 21st a colliery fitter aged fifty-five was brought to me with an injured arm. He had been working at a screwing machine, when the bolt slipped, striking him on the right palm and violently pronating the hand, the forearm at the same time being more or less fixed. He felt something give way and became faint. On examination the fingers were flexed, but not the wrist, the prominence at the back due to the head of the ulna was absent, and there was a most peculiar hollow running down for about an inch and a half along the ulnar side, between the tendons of the flexor and extensor of the ulnar carpus. At the back, distal to where the head of the ulna should have been, a prominent ridge could be felt, and on pressing the fingers underneath this ridge the ulnar surface of the carpus could be distinctly recognised. The lower extremity of the radius appeared to be in its proper position. There was also a lacerated wound of the palm where the bolt had struck. The patient could flex and extend the wrist more than one would imagine, but movements of pronation or of supination, both active and passive, could not be made, the attempt to do so giving rise to much pain. My assistant, Mr. J. G. Smith, assisted me during the examination, and agreed with the diagnosis of dislocation of the head of the ulna forwards on to the carpus. With moderate extension and forcible supination of the hand the dislocation was reduced with a loud snap, the longitudinal hollow disappeared, and the head of the ulna was seen and felt in its proper position. The patient expressed himself as being greatly relieved, and could perform the usual movements with the wrist. The palmar wound was dressed and a splint applied, and he has since gone on uninterruptedly well. The rarity of the accident is my excuse for publishing it.

Wath-upon-Dearne.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

VICTORIA HOSPITAL FOR CHILDREN, CHELSEA.

A CONGENITAL STERNAL DIMPLE.

(Under the care of Dr. WM. WALLIS ORD.)

A boy aged two years, an engraving of whom appears below, was first seen by Dr. Ord among his out-patients at the Victoria Hospital, Chelsea, in March, 1892. He was then suffering from rickets and bronchitis. On examining his chest he noticed on the skin in the middle line, about the junction of the manubrium with the body of the sternum, a small circular depression about two and a half millimetres in diameter, and in depth and appearance exactly resembling an ordinary pock mark. The mother said that this had existed since birth. After careful questioning he could obtain no history of any abscess or injury, and the child had not had either variola or varicella. There were no other marks of a similar nature on the body. In 1839, when house physician at the Victoria Hospital, Dr. Ord had under his charge the sister of the above case. He found on reference to his notes that she also had a similar dimple in an exactly similar position. She also was rickety and was subject to attacks of severe spasmodic dyspnœa, for which she was admitted to the hospital. On leaving the ward she was attacked at home by a sudden severe illness, which was said to have been "bronchitis," and died at the age of thirteen months. No post-mortem examination was made. The mother asserts that before death there was a "swelling" in the position of the dimple.

Remarks by Dr. WALLIS ORD.—I was unable to find any account or explanation of this dimple until I mentioned the fact to Mr. Bland Sutton, who kindly supplied me with what I believe to be the correct explanation of the phenomenon. In the development of the thorax the ventral extremities of the seven sternal ribs on each side become united by a longitudinal band of cartilage, and the subsequent union of these bands from before backwards forms the cartilage representing

the manubrium and body of the sternum. A median fissure in that bone from the imperfect fusion of the two halves has been frequently described. Mr. Bland Sutton considers that in the two cases above mentioned there has been an incomplete obliteration of the cleft, resulting in the formation of the superficial dimple, analogous to the well-known post-anal dimple. He suggests that inclusions of epiblastic structure in this position, of which the described dimple represents a stage, may be the origin of the dermoid cysts which are found in the anterior mediastinum, and which, as is taught in the text-books, have migrated in some mysterious and unexplained manner from the neck.

GENERAL HOSPITAL, WOLVERHAMPTON.

NERVE INJURIES COMPLICATING FRACTURES OF THE UPPER EXTREMITY, WITH SIX CASES.

(Under the care of the Honorary Surgeons.)

FOR the introduction, remarks and account of these cases we are indebted to Dr. Edward Deanesley

The subject of nerve injuries complicating fractures is one which receives little notice in any of the standard surgical text-books. Hamilton, in his large work on fractures, does not refer to it. Weir Mitchell, in his "Injuries of Nerves," gives a brief account of the subject, in which he says that "contusion or laceration of nerves from fracture of bones is most commonly encountered in such accidents as involve the humerus and the bony parts forming the elbow-joint," and he refers to two cases of this nature published by Erichsen in THE LANCET of July 1st, 1871, and to an essay by Ferrol Reuillet (Paris, 1869) on paralysis of the upper extremity connected with fractures of the humerus. He also discusses the question of compression by callus, and cites a case of this kind by Ollier. The most complete account of the subject to be found is given by Bowlby in his "Injuries and Diseases of Nerves." This writer remarks that fracture of the shaft of the humerus is more frequently the cause of nerve lesions than similar accidents in any part of the body. He cites, partly from continental, partly from English, sources, eleven cases of fracture of the humerus com-

plicated with lesions of the musculo-spiral nerve, one with injury of the median and ulnar, and two with injury of the ulnar alone. With regard to fractures of the bones of the forearm he remarks that "instances of nerve injury in cases of fracture of the bones of the forearm are certainly rare," and he cites two cases of injury of the median and of the ulnar nerves produced respectively by fractures of the radius and of the ulna. The cases cited by him are collected from sources dated from 1871 to 1882. It would thus appear that nerve injuries of this kind are of considerable rarity. The following six cases have occurred at the General Hospital, Wolverhampton, during the past two years and a half. Probably nerve injuries of this kind are in reality of less rarity than might be supposed from the number of recorded cases. Many such cases are probably not detected, the symptoms being regarded as the effects of disuse or confused with the stiffness of joints and muscles which commonly occurs after fractures. Cases, too, in which nerve lesions have been produced by undue pressure of splints are for obvious reasons little likely to be recorded. Of the six cases now recorded four are fractures of the humerus and two of the bones of the forearm. Of the four fractures of the humerus three were complicated with paralysis of the musculo-spiral and one with paralysis of the median and ulnar nerves, showing, as in the cases cited by Bowlby, the much greater frequency of lesions of the musculo-spiral. Of the two cases of fracture of the forearm one was complicated with paralysis of the median, the other with paralysis of the posterior interosseous, a complication of which Bowlby remarks that he has been unable to find any recorded case. As regards the mode of production of these nerve injuries they fall into two classes—those in which the nerve is injured simultaneously with the fracture, and those in which it becomes involved at a later period. In the first case the nerve may be injured by the same form of direct violence as causes the fracture or by the violent displacement of portions of the fractured bone at the time of the accident. The nerve may become involved at a later period in several ways. It may be stretched or slowly compressed through imperfect reduction or subsequent displacement of the fragments; or it may become involved in and compressed by the callus about the site of fracture; or lastly, nerves in exposed situations may be slowly compressed by splints or other apparatus used to immobilise the fracture. The six cases recorded below include examples of all these different modes of production. Of these there is only one in which the symptoms can be attributed to injury of the nerve at the time of fracture through violent displacement of the fractured bone. This, however, appears to be the most probable explanation in Case 3, in which a compound fracture of the upper part of the shaft of the humerus was complicated with paralysis of the median and ulnar nerves. In this case the symptoms of nerve injury appeared immediately after the accident, the hand being described by the patient as feeling "dead." The fracture was produced by direct violence applied to the outer side of the arm and the broken ends were probably forced inwards against the nerve trunks on the inner side. The fact that the belly of the biceps muscle was also completely ruptured may, on the other hand, have allowed the whole limb and the nerves with it to be violently stretched. Examples of nerve paralysis of later onset, due to slow compression by displaced fragments of bone, are probably furnished by Cases 5 and 6, in which musculo-spiral palsy followed imperfectly reduced fracture or separation of the lower end of the humerus. The exact time, however, at which the paralysis made its appearance was unfortunately not determined. In one case it was first noted on the fifth day and in the other not till one month after the accident. It is possible, however, in each case that it was present soon after the accident, but was overlooked. The paralysis might be attributed to pressure of callus involving the nerve. In both cases, it is true, there was much callus thrown out, but that involvement in callus is ever a real cause of nerve paralysis does not appear to be very well established. That nerves may become more or less surrounded by callus, was demonstrated by Ollier's case, cited by Weir Mitchell, and by Case 4 given below, but in neither of these cases was the nerve shown to be subject to any pressure by the groove of callus in which it lay. "Paralysis," as Bowlby remarks, "is of comparatively rare occurrence when the fractured ends are in close apposition, but is prone to occur when much displacement (and often a disproportionate amount of callus) results from the injury." Unreduced displacement was a marked feature of both Cases 5 and 6 and is probably the most important factor in all cases of so-called callus-pressure. Lastly, two of the six cases, Cases 1 and 2, in which paralysis of the posterior interosseous and median nerves respectively followed fractures of the forearm, in the absence of any other probable cause, can only be attributed to undue pressure from splints. There was, it is true, no direct evidence of this cause such as is sometimes afforded by sloughs of the skin. In one case, however, the patient was afterwards discovered to have complained of the tightness of the splints when they were first applied. In neither case was there any displacement or faulty union of the fragments. In one case the possibility of involvement of the nerve in callus was disproved by an exploratory operation. The naked-eye appearance of the injured nerves was examined in three cases by an exploratory operation undertaken with a view to remove any existing cause of pressure. In none of these did the nerve present the slightest sign of present or past lesion; in none was there found any existing cause of pressure.

CASE 1. *Fracture of both bones of the forearm; paralysis of posterior interosseous nerve.*—A youth aged sixteen fractured his right forearm by a fall on the hand. Both bones were broken at the junction of the upper and middle thirds. The fracture was treated in the ordinary way with straight flat splints well padded. When these were removed at the end of four weeks the fracture had united in good position, but he was found to have complete paralysis of the muscles supplied by the posterior interosseous nerve—viz., all the muscles of the back of the forearm except the supinator longus and extensor carpi radialis longior. There was no contraction or limitation of passive movement in the fingers or wrist. The affected muscles responded well to a moderate faradaic current. There was no loss of sensation. In answer to inquiries the patient stated that the fingers became numb immediately after the accident, but that feeling returned on the following day. The callus which marked the site of the fracture of the radius was nearly two inches below the point at which the posterior interosseous winds round that bone. Voluntary power began to return at the end of a month and recovery was perfect a fortnight later.

CASE 2. *Fracture of both bones of the forearm; paralysis of median nerve.*—A girl aged six years was admitted on Sept. 11th, 1891. Six weeks previously she had broken both bones of the forearm near the middle by a fall and had worn the ordinary straight splints for a month. When these were removed she was unable to straighten her fingers and had a very weak grasp. On admission the fractured bones were united in good position, but were still surrounded by callus, which appeared to involve both bones. All the fingers were flexed, the little and ring fingers more than the middle and index. The wrist was adducted and the metacarpal bone of the thumb was close to and on the same plane as the second metacarpal; pronation and supination were very limited. There was complete inability to flex the last joints of the thumb and index-finger. The muscles in the forearm and hand supplied by the median nerve did not respond to a strong faradaic current. Those, however, which were supplied by the ulnar nerve—viz., the flexor carpi ulnaris, the inner half of the flexor profundus digitorum and the interossei and adductor pollicis—responded readily to faradaism and had unimpaired voluntary power. The electric reactions and voluntary power of the extensor muscles of the wrist and fingers were also unimpaired, but their range of movement was much limited by the contracture of the flexor muscles, both paralysed and unparalysed. There was no loss of sensation so far as could be ascertained from a not very intelligent child. There was no scar or sign of pressure from the splints. On Nov. 11th, three months after the date of fracture, in spite of passive movement, friction and the regular use of the faradaic battery, there was no return of power in the paralysed muscles, although the contracture was rather less. The median nerve was, therefore, exposed in the middle of the forearm at the site of fracture, but was found to present no abnormal appearance, nor was it compressed by callus or in any other way. It was freed from its bed, hooked up and slightly stretched; the wound was then closed. The electric treatment and rubbing were resumed and improvement gradually took place. On Jan. 14th, 1892, the contracture was much less, the grasp stronger and the last joint of the index-finger could be freely flexed voluntarily. No response to faradaism could be obtained from any of the paralysed muscles until the 24th, a considerable time after the first return of voluntary power. On March 16th the functions of the hand were completely restored. The patient was able to write well and perform all movements. It only

differed from the normal state in the inability to completely straighten the little and ring fingers, in the flexors of which, although never paralysed, contracture was from the first the most marked.

CASE 3. *Compound fracture of the right humerus; paralysis of median and ulnar nerves; exploratory operation.*—A man aged twenty-six on Sept. 29th, 1891, had his right arm severely crushed by a fall of earth in a coal mine. The humerus was broken in its upper third and the fracture was rendered compound by two small wounds on the inner side of the arm. The belly of the biceps was completely torn across just above its middle. On the following day the patient complained of great numbness in all the fingers, but especially in the middle and index. He was nevertheless able to localise a touch on all the fingers. He said that immediately after the accident the whole hand became "dead" and remained so till the following morning, when feeling began to return. The wound ran an aseptic course. On Oct. 20th, splints and dressings having been removed, the patient was found to be completely unable to flex the wrist or any of the fingers, and all the muscles on the front of the forearm failed to respond to the strongest faradaic current. The voluntary power and electric reactions of the other muscles of the limb were normal. The hand still felt numb, but there was no definite loss of sensation. On Nov. 7th, these symptoms continuing, the median and ulnar nerves were exposed and examined in the middle of the arm, but were not found involved in callus or in any way abnormal in their appearance and relations. On the 18th the patient had recovered slight power of flexing the little and ring fingers (ulnar nerve). On Dec. 1st contracture of the flexors had set in and prevented extension of the wrist beyond the straight position. Under treatment by friction and faradaism power was rapidly regained in the muscles supplied by the ulnar nerve, but in those supplied by the median recovery was slow. On Jan. 19th, 1892, the arm presented the typical characters of isolated palsy of the median nerve, with wasting and loss of electric reaction in the affected muscles. On Feb. 4th the flexor carpi radialis was found to contract on faradaising the median nerve at the middle of the arm. On Feb. 27th there was slight power of voluntary flexion of the last joint of the thumb. From this time he made a gradual but steady recovery, and when last seen on Sept. 26th, 1892, nearly a year after the accident, he had a strong and useful arm and hand and was able to oppose and flex the thumb perfectly. There still, however, remained slight numbness of the last joint of the index-finger, and supination of the forearm and extension of the wrist were much limited by contracture of the muscles which had been paralysed.

(To be continued.)

FUNERAL REFORM ASSOCIATION.—At the last monthly meeting of this Society the hon. secretary, Rev. F. Lawrence, read a paper upon the "Rubrics of the Burial Service." The speaker dwelt upon the points necessary to be observed in order that burials may be conducted in a decent and harmless fashion. These points have been so recently urged in our pages that it will not be requisite to reproduce them on this occasion.

ROYAL METEOROLOGICAL SOCIETY.—At a meeting of the members of this Society to be held on the 19th inst. at the Institution of Civil Engineers, Great George-street, the following papers will be read. By Mr. F. C. Bayard, F.R. Met. Soc., the Direction of the Wind over the British Isles in 1876–80; by Mr. H. C. Russell, F.R.S., Lightning Photographs taken at Sydney Observatory in December last; by Mr. Ernest H. Cook, D.Sc., Lightning Discharges in the Neighbourhood of Bristol, 1892; by W. Midgley, F.R. Met. Soc., Constructive Errors in some Hygrometers. The meeting commences at 7 P.M.

LITERARY INTELLIGENCE.—The second number of the *Indian Medico-Chirurgical Review* has just come to hand, and the issue of this fresh claimant to medical support betokens a quickening of the interest in medicine in the British dependency. In this number is presented an address delivered at the annual meeting of the Grant College Medical Society by R. N. Khory, M.D., M.R.C.P. Lond., which deals in an instructive way with matters of general and local medical interest. The contents are varied, pithy and on the whole sound, but the extracts are, we perceive, taken from too limited a field to satisfy those who wish to keep abreast with contemporary literature.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Acute Renal Dislocation.

AN ordinary meeting of this Society was held on April 11th, the President, Sir ANDREW CLARK, being in the chair.

Mr. BRUCE CLARKE read a paper on Acute Renal Dislocation. After alluding to the varying character of the symptoms which were met with in movable kidney, he went on to state that the cases with which his paper dealt were those which were characterised by a series of acute attacks. The attacks usually supervened upon some violent exertion, and each attack seemed to render the individual more liable to another. Usually without any warning the patient was seized with a violent pain in one or other of the kidneys, which might radiate down the thigh. These attacks of pain simulated the paroxysms of renal colic, but might be distinguished from them by the non-passage of a stone and by the tenderness and intestinal distention over the region of the affected kidney which usually supervened after an hour or two. Sometimes the kidney itself might be felt to be distended if an examination were made during the progress of the attack, but the distension was never excessive, because it was only in the early stages of a hydronephrotic tumour that such attacks usually occurred. Later on, when the kidney had been more distended and when its movements were not so limited in character, less pain was experienced by stoppage of the ureter. To such a train of symptoms the term dislocation seemed to be very appropriate, for in some instances actual reduction might take place either with or without an anæsthetic, and if this occurred the pain ceased quite suddenly. The causes and treatment of this condition were also considered, as well as the condition of the kidney when it was exposed on the operating table.

The PRESIDENT remarked on Mr. Bruce Clarke's statement that the attacks of pain simulated renal colic, and asked him if he held that a case was not one of renal colic if unaccompanied by the passage of a stone. The first consultation he ever held was concerning a patient who had paroxysms of pain accompanied by the discharge of blood, but the attacks terminated without other issue. He was blamed by a senior colleague for describing this as renal colic, though later the patient passed a stone.

Mr. CLEMENT LUCAS said that many acute attacks of pain in women followed by discharge of urine had been put down as neurotic. He had drawn attention to cases like those related in a paper read before the Bournemouth meeting of the British Medical Association in 1891. Where these symptoms of torsion or strangulation occurred the kidney itself was in danger, there being a partial or complete stoppage of the ureter with or without disturbance of the renal vascular supply. The chief danger, however, was in the obstruction of the ureter. He mentioned the case of a young athlete who dated his trouble from a severe crush received whilst witnessing the Jubilee procession. He suffered from severe attacks of pain on the right side, recurring every four days. He (Mr. Lucas) cut down, found the organ in a condition of early hydronephrosis and performed nephrorrhaphy; there had been no trouble since. In another case a woman presented a large abdominal tumour which turned out to be a movable hydronephrotic kidney. He cut down on it and sutured it to the loin, and the kidney had not since refilled.

Dr. BOWLES asked if there were no other cause than stone for renal colic. He had seen attacks like those described in cases of pure hydronephrosis. In one case they occurred in a lady who played the organ, but disappeared after perfect rest had been ordered. Acute renal dislocation was not a good term, because in most instances the kidney was already out of place and movable before the severe symptoms supervened.

Mr. THOMAS SMITH likewise disagreed with the title of the paper, though he was glad that further attention had been drawn to these cases. In his earlier days the very existence of loose kidney was not recognised. They were of every degree of mobility, were more common in women and usually developed slowly. They were especially apt to follow the rapid emaciation after typhoid fever. He believed the condition was not at all uncommon, and many people had a loose kidney without experiencing any trouble from it. There

was no direct relation between the mobility of the kidney and the pain the patient suffered. If one were discovered on examination, it should never be mentioned to the patient unless there were special reasons for doing so. In some cases the pain was extremely distressing, and he related an instance to show the rapidity with which hydronephrotic tumours might form and disappear. Mr. Bruce Clarke had referred to the results of treatment as highly satisfactory, but he himself was not able to share that view in regard to nephrorrhaphy. The operation was sometimes performed by passing stout silk ligatures through the substance of the kidney, but he thought that in ten years' time cases would be met with in which calculus had been caused by this method. In Germany lately it had been recommended to cut down on the kidney in the loin, irritate the surface of the capsule with nitrate of silver so as to excite inflammation, and then later to fasten the capsule of the kidney to the edges of the wound.

Dr. NORMAN MOORE had been unable to make out the precise anatomical relations of these displaced organs. It would be well to bear in mind the extremely rare occurrence of movable kidney on the post-mortem table. He had only seen two instances in which the organ was so mobile that it could be felt by palpation during life. He asked what was the average duration of the operation of nephrorrhaphy.

Dr. HARE alluded to the prevalence of this trouble in females and said that it was six times as common on the right side as on the left. The subjects of movable kidney often went through long years without any more formidable symptoms than a little dragging pain in the side. Considerable relief might be given in many cases by a properly adjusted abdominal truss. He related a case of bilateral intermittent hydronephrosis, in which there was a peculiar twist at the lower part of the ureter, which became straightened when the kidney was distended. Cases like these explained one variety of phantom tumour.

The PRESIDENT added that out of 4000 post-mortem examinations he had personally met with only about two movable kidneys.

Dr. CHAMPNEYS said that the conditions of abdominal pressure and the deposition and removal of fat were more variable in women than men, and this partly accounted for the increased frequency in woman of movable kidney. The predisposing causes were important; mobility of the kidney was commonly found associated with descent of the uterus and other abdominal and pelvic organs, and cases frequently ran in families. Women often emaciated much after pregnancy and the abdominal muscles were weak, and a jerk or fall under these conditions was more likely to produce a displacement. When fat was again being accumulated the case sometimes underwent spontaneous cure. The neurotic symptoms were not due to renal strangulation. They must be put with other neurotic affections such as those associated with pendulous abdomen, in which the intestines fell, stretching the mesentery and causing nerve pains.

Mr. CLEMENT LUCAS said that a case recorded by Mr. Durham was a true floating kidney with a mesentery attached. The rarity of these cases in post-mortem experience might be partly explained by the fact that the patients before dying were bedridden for some time, and this favoured the falling back of the kidney to its normal position and then after death it was fixed there by the consolidation of the surrounding fat. Its common occurrence in women, and on the right side, might be explained by the fact that the fair sex were more liable than men to compression of the thorax.

Dr. MAUNSELL said that many surgeons had denied the existence of floating kidney, but he had met with two undoubted instances. In one he cut down from the front and found a very movable organ. It was held in place in the loin by the hand of his assistant whilst he cut down from behind and sutured it in place. In another case presenting all the symptoms of renal colic and unaccompanied by jaundice, he opened the peritoneum in front and found the case to be one of gall-stones.

Mr. R. J. B. HOWARD asked Mr. Bruce Clarke if he had met with a case in which, with the symptoms of colic, there was no evidence of hydronephrosis other than a copious flow of urine.

Dr. SOLOMON SMITH wished to ascertain the natural history of these cases if they were left without operation. Did they drift on to hydronephrosis, with persistence of pain, or towards ordinary movable kidney. In a fair proportion of cases he anticipated that a mitigation of the symptoms was to be expected.

Mr. BRUCE CLARKE, in reply, said his object was to refer only to a particular series of cases in which the pain was very acute, and he maintained that the analogy of these to dislocation of a joint was a very close one. The kidney became slightly movable, then the ureter kinked and the organ became further displaced and distended. The point was that it could not be got back into position without external help. If the pain were acute and violent he suggested operation, the latter taking about a quarter of an hour. He tried to pass the sutures through the kidney sufficiently superficially to avoid the risk of provoking the formation of a calculus. Recently in the post-mortem room in a patient who had died from a crush the kidney was found dislodged and lying in a quantity of effused blood.

OBSTETRICAL SOCIETY OF LONDON.

Extra-uterine Gestation.

A MEETING of this Society was held on the 5th inst. at 20, Hanover-square, Dr. HERMAN, President, in the chair.

Dr. REMFRY showed microscopical sections of a Blighted Ovum.

Three papers on Extra-uterine Gestation were then read.

Dr. CULLINGWORTH reported a case in which the fœtal movements ceased at the end of the eighth month and abdominal section was performed four weeks later. The patient was a married woman aged twenty-five, the mother of one child born fourteen months before admission to hospital. Menstruation was re-established and recurred regularly until July, 1889. On Aug. 14th, a day or two before the next period was expected, the patient was seized with severe abdominal pain. The expected menstruation did not take place. In September the pain reappeared and from that time there were irregular hæmorrhages. In October the abdomen began to swell and in December fœtal movements were felt. On March 3rd, 1890, the movements finally ceased and the size of the swelling began to diminish. The patient was sent into St. Thomas's Hospital on March 27th and abdominal section was performed on April 1st. The fœtus, which had evidently been dead some days, was nineteen inches long and was fully developed, and lay between the layers of the right broad ligament. The placenta, nine inches in diameter and 1 lb. 8½ oz. in weight, was separated and removed without loss of blood. The mouth of the emptied sac was stitched to the edges of the lower part of the abdominal wound. The patient made an excellent recovery. The important point in the case was the absence of hæmorrhage on removing the placenta, although only four weeks had elapsed since the death of the fœtus.

Dr. JOHN PHILLIPS related the next case. The patient, aged twenty-eight and married eight years, has two children, the last being born five years ago. Both labours were normal in every way. The last period ceased on Jan. 30th, 1891, after which she had morning sickness and considered herself pregnant. During the last week in April, when passing urine (after allowing her bladder to become much distended) she was seized with a severe paroxysm of pain in the lower abdomen, but did not lose consciousness. Some slight vaginal hæmorrhagic discharge occurred. After this she began to have spasmodic abdominal pains, chiefly on the right side. On May 26th she went to the Hospital for Women, Soho-square. Serous discharge was expressed from the breasts, and the uterus was found fixed in the pelvis and an abdominal tumour made out. Early in August shreds began to be passed with the hæmorrhagic discharge; the abdomen continued to increase in size. On Sept. 15th the breasts became very painful and swollen, but shrank the next day. They returned gradually to their ordinary state of flaccidity. The patient was admitted into King's College Hospital on Oct. 12th, and three days later the abdomen was opened and a putrid fœtus of about six to six and a half months' growth was removed from a cyst in the left broad ligament. The patient recovered.

Mr. SINCLAIR STEVENSON of Cape Colony communicated three cases of Extra-uterine Gestation. The first was in a woman aged forty, married seventeen years, but never previously pregnant. She thought she had passed her full time. On examination the abdomen was very distended; a fluid thrill could be felt all over; and the body of the fœtus was distinctly felt and the fœtal heart heard. It was decided to operate, but she died before the operation could be performed. At the necropsy a cyst containing a large fœtus and some most offensive greenish fluid was found filling the whole of

the abdominal cavity. The broad ligaments were normal apparently, and the placenta (which was attached to the fundus uteri) was unusually small. The second case was that of a woman aged thirty, married eleven years; five children; last confinement eleven months ago. Three months after her confinement she was attended for acute abdominal pains followed by severe prostration. She did not think she was pregnant. After the attack she had floodings for some days and a pelvic swelling was then discovered; this rapidly enlarged. Six months after the attack of pains she was seen by Mr. Stevenson, who found in the left side of the abdomen a tumour extending two inches above the umbilicus; it was hard, nodular and without fluctuation. Abdominal section was performed, the sac incised and a full-sized living child extracted, during which the sac was torn and free hæmorrhage followed; the sac was drawn up through the abdominal wound and clamped low down. The patient made an excellent recovery. The third patient, aged thirty-four and married six years, had no children. Three months before being seen by Mr. Stevenson she flooded for six weeks. Two months previously to this she had menstruated very little. No loss since. On examination an oval growth reaching up to the umbilicus was felt. Abdominal section showed a large cyst of the broad ligament. This was evacuated of its fluid contents (which were very offensive) by a trocar. The adhesions were freed and the whole of the sac was brought out, clamped and cut off. The patient recovered.

Mr. SIDNEY TURNER thought that the rhythmical contraction of the uterus in cases of ectopic gestation was a fact of much interest. Again, the question of waiting till the death of the fœtus had taken place before operation for its removal was undertaken was an important point for consideration, as was the question whether the placenta should be removed at the time of operation or be left to break down and come away subsequently.

Dr. HORROCKS related a case which was kept under observation during the last months of gestation, so that the death of the fœtus might take place before operation and thus lessen the risk of hæmorrhage, but in which at full term internal bleeding set in; immediate operation was resorted to but the patient died on the table. He had determined in future not to wait for the death of the fœtus and about a year ago he operated on a case, but on attempting removal of the placenta very free hæmorrhage set in, which was only stopped by ligaturing the broad ligament bit by bit and cutting it away with the placenta; the operation lasted three hours, but the patient made an excellent recovery. He mentioned the interesting fact that the uterus contracted and relaxed in extra-uterine as well as in intra-uterine gestation; also that in extra-uterine gestation the uterus increased in size *pari passu* with the gestation and its walls were so thick at any given stage when the child was alive as to admit of their being stretched into a size comparable to the same degree attained by an intra-uterine gestation of the same age.

Dr. WILLIAM DUNCAN agreed with those who argued that when extra-uterine pregnancies were diagnosed in the late months of gestation it was not advisable to wait until the child had been dead for some time before operating, as the danger of hæmorrhage is not so very formidable if the placenta be not interfered with; besides which, the occurrence of sepsis can be in great measure avoided by taking proper precautions. He thought that if extra-uterine gestation were diagnosed in the early months operative measures should be undertaken without any delay, as the danger to the mother was so great; if, however, the child had nearly approached viability he would feel inclined to endeavour to save it by keeping the mother absolutely at rest. He thought it a dangerous practice to try to remove the placenta at the time of operation unless one felt pretty sure that the circulation had ceased in it. He related a case in which profuse hæmorrhage occurred the day after operation for extra-uterine gestation and whilst the cyst cavity was being gently washed out; the probability was that a piece of the placenta was detached by the nozzle of the syringe. Fortunately the injection of a solution of ferric chloride stopped the bleeding and the patient ultimately recovered.

The PRESIDENT said there were three points raised in the papers and remarks on them on which he wished to comment. The first was whether it was desirable to postpone operation until after the death of the fœtus or not? He thought that in the first six months of pregnancy the sooner the operation was done the better. The patient was saved much suffering and risk; at or near term, on the other hand, he thought the evidence of statistics as to the tremendous danger of operating during the life of the child was so clear and strong that it could not be set aside. The second point was as to the wisdom of trying to remove the placenta. There were at least three different conditions of placenta that were met with: it might be completely thrombosed and then could be easily and safely peeled off; it might be attached to the broad ligament, and it then could be pulled up, its seat of attachment tied and the placenta cut away like a broad ligament cyst; or the circulation might be still alive in it and its attachments might be widely spread over important and vascular parts, and in that case any attempt at its removal would be disastrous. The third point was as to the necessity for stitching the sac to the abdominal walls; he thought it was quite unnecessary. In a case on which he had operated about a month ago, in which he found the sac had begun to suppurate, he removed the fœtus of five and a half month's growth, did not interfere with the placenta, but filled the sac with iodoform gauze, leaving the end protruding and not stitching the sac to the abdominal wall. The gauze was not disturbed for ten days. It was then removed and the sac daily washed out for the next fortnight, bringing away placental débris, and the patient recovered as well as if the sac had been carefully stitched to the abdominal wall.

Dr. HEYWOOD SMITH asked the President if, in the case just mentioned, he considered that by plugging the sac with gauze the edges were thereby brought forward, or how otherwise was the general abdominal cavity safeguarded?

Dr BOXALL suggested that the cause which eventually led to the death of the fœtus had for some time previously been in active operation so as to retard development, hence the apparent discrepancy with regard to the death of the fœtus.

Dr CULLINGWORTH in reply said he believed in removing the whole of the sac in operations for extra-uterine gestation whenever practicable. He agreed with the President that ligature of the sac to the abdominal walls was unnecessary. He would like to know on what authority Dr. Horrocks stated that the enlargement of the uterine walls and cavity continued to increase up to the moment of the death or removal of the fœtus. He agreed that in the earlier months abdominal section was indicated as soon as diagnosis was established, but that in the later months each case had to be decided according to its own special circumstances. In the case he recorded he had commenced the separation of the placenta tentatively because he regarded such a course preferable wherever it was at all practicable, and not because he had any reason to believe that in that particular case the placental circulation had ceased. Professor Martin of Berlin both advocated and practised removal of the placenta at the time of operation and a series of cases from his clinique illustrating this practice had been published in this country some six or seven years ago by Dr. Annacker of Manchester.

PROVINCIAL MEDICAL SOCIETIES.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this Society was held on Tuesday, April 7th, J. H. BELL, M.D., President, in the chair.—Mr. HORROCKS showed a patient on whom he had performed Bassini's operation for radical cure of Inguinal Hernia.—Dr. KERR showed a well-grown girl of fifteen, with a family history of phthisis, who had become anæmic, with slightly raised temperature, especially at night, shortness of breath, lassitude, some amenorrhœa, and acceleration of the pulse. Treatment was without result and incipient phthisis was feared; subsequently some fulness of the neck showed itself, and eighteen months from the onset of symptoms von Graefe's lid symptom was detected. There was absence of tremor or exophthalmos.—The prognosis and treatment were briefly discussed by the President and Drs. A. Bronner, H. Bronner and Firth.—Mr. ALTHORP showed a Salivary Calculus removed from a man aged forty, who had himself previously removed several smaller ones. Numerous recorded cases were quoted to show the occasional difficulty of diagnosis, pain, which was worse at meal-times, being the most prominent symptom. The theoretical significance of calcium salts in these structures pointed to their being possibly a result of degeneration.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this Society was held on April 5th.—Mr. ANDERSON, Vice-President, showed two young women upon whom he had performed operations on the Thyroid Gland. In the first case the growth was soft and adenoid, and was excised; in the second the growth was parenchymatous, and the case was treated

by division of the isthmus, which resulted in marked diminution of the swelling. The rules of treatment were summed up as follows: (1) Cysts, enucleation; (2) adenoids, excision and ligature of pedicle; (3) parenchymatous growths, removal of isthmus.—Mr. WILLIAMS then read a paper on the Relation of Graves' Disease to Myxœdema. The history of a case was related in which the patient was successively the subject of both these diseases. She was aged thirty, and showed symptoms of Graves' disease whilst resident in Derbyshire. After removal to a healthy place and the administration of arsenic she quite recovered. Five years later she became apathetic and her face became puffy, as well as her hands and arms, which were also affected by painful cramps. There was no albuminuria.—Dr. BROADBENT expressed the opinion that the case was myxœdema in an early stage, with which Mr. Williams agreed. Arsenic and iron were given and the patient again became quite well. He considered that over-activity of the thyroid, as might be the case in Graves' disease, might result at a later period in functional exhaustion and finally in the atrophy so commonly associated with myxœdema.—Remarks were made by the President and Drs. W. B. Ransom and Cattle.—Subsequently the PRESIDENT showed for Mr. THOMPSON a Cyst as large as a cocoanut, successfully removed from the thyroid gland.—Mr. ANDERSON showed a Sarcomatous Growth of the Thyroid Gland which had caused death by pressure on the trachea. Tracheotomy was performed without avail.

PLYMOUTH MEDICAL SOCIETY.—A clinical evening of this Society was held on April 5th in the Society's library. Mr. LUCY showed: (1) An Oxalic Calculus weighing 68 gr. removed by lumbar incision from the right kidney of a man aged twenty-five for symptoms of hæmataria, oxaluria &c. lasting for three years; (2) the Spinal Column of a labourer aged fifty-seven, the subject of marked pulmonary emphysema, showing bosses of new bone on the right side of the bodies of the six lower dorsal vertebræ opposite the inter-vertebral discs; (3) a bottlewasher aged fifty-three with Dupuytren's Contraction affecting the right ring and left middle and ring fingers, noticed for six months, and accompanied by dimpling of the palm and nodules on the flexor tendons; no history of gout or rheumatism was elicited; (4) (for Mr WOOLLCOMBE) a Periosteal Sarcoma of seven months' growth at the upper end of the right tibia of a miner aged twenty-six, which was removed by amputation through the lower third of the femur.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this Society was held on Thursday, March 23rd, the President, Mr. Simeon Snell, F.R.C.S. Edin., in the chair.—Dr. BURGESS showed the following patients: (1) A child aged four with Hypertrophic Cirrhosis of the Liver following measles; (2) a deputy in a coal mine with Nystagmus; (3) a horn-cutter whose head began to nod and jerk to the right when he attempted to read or look fixedly as he did when at work; and (4) an undersized youth of eighteen with marked ataxic gait and syllabic utterance following an attack of influenza two years ago.—Dr. PORTER showed a Malignant Growth, apparently originating in the lumbar glands, with secondary deposits in the liver and one kidney. The tumour was firmly attached to the front of the vertebral column and enclosed the aorta, common iliacs and inferior vena cava. From the microscopic sections shown the primary growth appeared to be scirrhus and the secondary encephaloid.—Mr. RICHARD FAVELL showed specimens of Double Ovarian Disease—round-celled sarcoma—with epithelioma of the cervix uteri occurring in the same patient. The left ovarian tumour weighed 15¾ lb.; the right ovary was the size of a cocoanut.—Dr. MARTIN described and showed a solid Ovarian Tumour weighing 5½ lb. which he had removed from a woman thirty-seven years of age, the mother of two children. The patient made a good recovery.—Mr. SNELL exhibited specimens from a case of Osteo-sarcoma involving both orbits in a boy aged four. There were secondary growths widely diffused.—Dr. COCKING read notes of the case of a woman aged sixty-eight with well-marked symptoms of Myxœdema. After two months' treatment with thyroid gland extract, administered by the mouth, her condition has very considerably improved. Though still weak her strength had increased, dizziness—previously a marked symptom—had entirely disappeared, the swelling had vanished, the skin acted freely, the temperature had risen and the scalp showed signs of a new growth of hair. A slight increase in the amount of urine passed daily had been noted.—Mr. J. LEWIS OWEN showed for Dr. HUNT a case of Myxœdema treated with thyroid gland extract and feeding with raw thyroid gland. There was marked improvement in the general condition and appearance of the patient (as was shown by photographs) since the beginning of the treatment in September, 1892. On two occasions alarming symptoms occurred during the injection, with general œdema of the face. On ceasing the injections the patient passed an ounce or two of blood per rectum with each motion, which stopped with the thyroid feeding.—Mr. RICHARD FAVELL read a short paper on the Treatment of Abortion. In threatened abortion he advised absolute rest with bromide of potassium and opium. Rest also should be enforced at the times corresponding with the menstrual periods. In inevitable abortion, when there was rather free hæmorrhage, he considered there was no treatment so good as that of the use of the tampon. The vagina should be carefully and efficiently plugged, and the plugs should be removed in ten or twelve hours. Ergot should not be given until the os uteri was fully dilated. In incomplete abortion Mr. Richard Favell strongly advised early and complete evacuation of the contents of the uterus. If practicable, this should be done by the hand alone; if the dilatation was not sufficient it should be completed by Hegar's dilators. In cases where the cervix had contracted he used a laminaria tent, in the first place completing the dilatation with Hegar's dilators or Barnes's bag.

Notices of Books.

Specielle Chirurgie für Aerzte und Studirende. Von Professor Dr. H. FISCHER, Geheimem Medicinalrathe. Mit 190 Abbildungen in Holzschnitt. Berlin: Friedrich Wredons. 1892 [*Special Surgery for Practitioner and Student.* With 190 Wood Engravings.]—This is the ninth volume of a series of medical text-books issued by the above-named publisher. It deals with what we usually call "regional surgery," and its scope is well defined by this title. It presents well enough the teaching and practice of German surgeons, and occasional references are made to the writings of English surgeons. Viewed from a surgical standpoint the book is a good one, containing much useful information in an accessible form. The matter is well arranged and there is a very complete index. The literary style is in many places somewhat defective, the author escaping from the difficulties of long, involved sentences by an immoderate use of hyphens and brackets. Much of the most useful matter to English readers is relegated to small type, but as the text occupies 850 large octavo pages we must not complain of this attempt to keep the work within reasonable limits. The practice of the most careful and rigid asepsis and antisepsis is everywhere advocated. The paper and type are excellent, and the illustrations, although calling for no special commendation, are fair: they are, however, by no means uniformly distributed.

État Mental des Hystériques. Par Dr. P. JANET. Bibliothèque Médicale Charcot-Debove. Paris: Rueff et Cie, Éditeurs. 1892. This is another volume of a series of excellent and beautifully got up little volumes. The book itself is an interesting attempt to elucidate the psychological phenomena accompanying the curiously complex condition of hysteria, and to anyone interested in this obscure problem it contains much food for reflection. It is evidently the work of one who has pondered deeply on the subject, of which he writes clearly and to a certain extent dogmatically; and although it will be chiefly interesting to his countrymen, who are confronted with hysteria of a character and intensity which is seldom met with elsewhere, it certainly merits the careful attention of all who are interested in the more obscure problems of neurology.

The Bristol Medico-Chirurgical Journal. Bristol: J. W. Arrowsmith. London: J. & A. Churchill.—In the current number of this excellent provincial medical publication we find evidence of the active medical life of the west of England, although the influence of its activity will, we trust, be by no means limited to that centre. There are three original articles—one by Dr. Kent Spender on Acute Inflammation around the Upper Cervical Vertebræ, written with all his well-known literary polish, and recording, we

regret to learn, his own sufferings, from which he has fortunately recovered and from which we hope he will have a long immunity. Dr. Alfred Sheen has an interesting paper on Pleural Effusions, their Diagnosis and Treatment. To tap or not to tap—that is the question here dealt with. Dr. A. E. Aust Lawrence and Mr. C. A. Morton record a case of Extra-uterine Gestation. The remainder of the volume deals with the progress of medicine and surgery, reviews of books and the meetings of the Bristol Medico-Chirurgical Society. Under the competent editorship of Dr. Shingleton Smith and his associates we doubt not the publication will be widely appreciated.

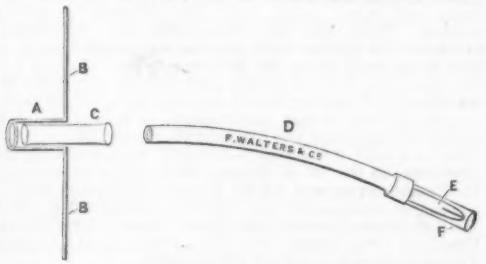
From Hospital Ward to Consulting-room. A Medical Autobiography. By a GRADUATE OF THE LONDON UNIVERSITY. London: H. K. Lewis.—The contents of the *brochure* under notice will almost wholly be found in any one of our Students' Numbers. There are a few personal reminiscences and experiences, which necessarily vary in some of their details from those encountered by other aspirants to, or followers of, the medical profession, and some of these reminiscences are of interest; but the directions included in the fifty-eight pages of the book cannot be regarded as adding very materially to the resources of those who are seeking access to the ranks of healers of the sick; whilst to such as have already made any considerable headway in that direction the information afforded by the author is of comparatively little value.

The Veterinary Journal for February contains a very good paper on Tuberculosis in Cattle from the pen of Professor Pearson of the Pennsylvania University; an interesting article on Influenza or "La Grippe" in Horses, by Professor Leclainche of the Toulouse Veterinary School; another on the Utility of Mallein as a Test Agent in Glanders; and a very suggestive paper, by Dr. Kelsch of the Val-de-Grâce Hospital, Paris, on the Relations between Pneumonia in Man and Pleuro-pneumonia of the Horse, in which evidence is brought forward that would seem to establish an identity in causation, or rather, perhaps, the possibility of transmission of the equine disease to our own species. This paper is well worthy of perusal, as it directs attention to a possible source of infectious pneumonia in man which has not been suspected in this country, we think. This periodical has also an editorial article on Human Scarlet Fever and Bovine Mammary Eruptions, in which it is suggested that in outbreaks of scarlet fever, when cattle are supposed to be their origin, specially skilled veterinary surgeons should be employed to assist medical officers of health in their investigations in the dairies; and also that, when experiments are deemed necessary to establish a connexion between scarlet fever and mammary diseases in the cow, more than one experimentalist should be called in, so that the one could control the work of the other.

New Inventions.

EMPYEMA DRAINAGE APPARATUS.

AFTER working at the subject of empyema for some time and being dissatisfied with the form of drainage-tube usually adopted, since it does not in any way aid the re-expansion of the lung, I have had the apparatus described below made for me. It consists of an indiarubber tube (A) about one inch long, with a lumen about two-fifths of an inch. This is provided with a pliable indiarubber flange about six inches long by four inches broad and nearly one-eighth of an inch in thickness. Into this rubber tube is fitted a glass one (C) which has nearly the same-sized lumen as the indiarubber one in which it lies, and which has the ends somewhat expanded in order to give the indiarubber tubes better hold. The glass tube inside the rubber one goes only through the chest wall, but projects beyond the flange about an inch outwards. After the empyema is opened and a piece of one of the ribs removed to give more space for the tube, it is introduced into the pleural cavity and the flange bandaged to the chest wall with sufficient firmness to prevent any air getting into the cavity by the sides of the tube. A piece of gutta-percha tissue of the same size as the flange, and with a hole in the centre for the tube, may be interposed between the flange and the chest wall, as this adheres firmly to the skin and helps to keep out air. Over the projecting glass tube is slid an indiarubber one (D) measuring about a foot in length, and to the end of this an indiarubber valve (E)



is attached. This valve is placed inside a piece of glass tubing, to allow of its freer working, and is similar to the valve in a Higginson's syringe, only allowing a much larger lumen. The indiarubber tube with its valve is carried either into a bottle with some antiseptic lotion, in order to measure how much discharge passes, or else it can be conducted into a dressing apart from that fixing the tube to the chest.

The points which appear to me to be of advantage in the above apparatus are: 1. The valve prevents the air getting back into the pleural cavity, and diminished pressure on the lung results, which will favour its expansion, and the more the patient coughs the more the lung will expand. 2. The discharge is easily dealt with either by receiving it into a bottle or into a separate dressing. This will obviate the inconvenience of frequently dressing the wound. 3. The patient need not be confined to bed, as he can go about having the bottle in his pocket to receive the discharge. 4. The simplicity and cheapness of the apparatus.

Should pain arise from the expansion of the lung and stretching of adhesions, the tube may be clamped at intervals to allow the lung to become accustomed to its new position. In order to clean the apparatus, which will sometimes get blocked, it is only necessary to clamp the tube and then clean the valve. If necessary, the valve may be removed for this purpose. This apparatus would not, of course, be of use in cases where a communication exists between the cavity and the lung. Since I had the apparatus made and whilst reading the literature on the subject, I find that Dr. Williams of Liverpool, about 1878, used a form of valvular tube with which he obtained excellent results. The valves have been specially made for me by Messrs. Walters and Co., Moorgate-street, London, who also make the complete apparatus.

W. MENZIES HUTTON, M.B., C.M. ED.

THE CUSHION VENTILATING SOCK.

IT is not difficult to recognise certain advantages attending the use of this addition to the clothing of the feet. In the first place, ventilation is more thoroughly provided by means of the device than can otherwise be obtained, and this is an important point with those whose occupation necessitates much walking. Then the construction of the sock involves a peculiarity designed to support the "waist" of the foot, and thus to assist in remedying the deformity known as flat-foot. To effect this result, however, the sock will require to be worn for some time, and the wearer will have to accustom himself to the preliminary discomfort attending its use. Also the capacity of the boot or shoe will have to be slightly increased so as to allow of the extra room required to ensure the necessary comfort. These little difficulties, however, are easily surmounted, and the invention will no doubt prove a boon to pedestrians as well as to those whose occupation involves much standing. The apparatus can be obtained from the Cushion Ventilating Sock Company, Sherwood-street, Nottingham.

THE LANCET.

LONDON: SATURDAY, APRIL 15, 1893.

IT is impossible for the profession in Europe not to feel deeply interested in the progress of medical education in the United States and in the estimate of the profession held by the educated classes of that great country. We have frequently taken occasion of late years to note evidence on this subject and to lay it before our readers. Another opportunity now presents itself of which we propose to avail ourselves. The *Medical Record* of New York gives its readers the benefit of an early notice of the chief facts culled from the proof-sheets of the forthcoming United States Educational Report for 1889-90. These facts have been gathered by Dr. BAYARD HOLMES, who has had the privilege of using the proof-sheets. They are of great interest to the American public and of scarcely less to the profession throughout the world. Whatever may be our views of political constitutions and of national duty we shall all agree that every State owes it to itself to secure a high standard of education in medical men, and that for a young and vigorous nation like that inhabiting the United States this object is one of supreme importance. No doubt it is subject to the temptation from its very youthfulness and vigour of thinking that it can take its health for granted, or when it fails that it can rely on the first self-constituted practitioner to rectify what is wrong. But this is a dangerous view and one that will not survive a long experience. The very conditions of American life make it necessary to pay more rather than less attention to the great teachings of medical science. The very complications of a society made up of all the races of Europe and more besides, the very rate of life and the ever-shortening time in which communication with America is effected from Europe and Asia, with the ever-increasing liability to invasion by their epidemics, are reasons for developing the study of medicine to its highest point, and insisting that all who follow it shall do so thoroughly. Of late years the leaders in the American medical schools have been fully alive to the importance of this subject, and they have been making noble efforts to increase the time spent in preliminary and medical education and the stringency of the tests of such education in the case of those seeking admission to the medical profession. Their labours have not been without some success; but the accounts which we are about to give show how limited this success has been, and how much has yet to be done before the processes of medical education and examination in the United States can be said to approach the like processes in Europe. The result is the more surprising as we see in England the ardour of American students and physicians in the pursuit of medicine, and have our medical literature and art constantly enriched by the contributions of American practitioners.

We can only hope for the final success of these earnest teachers. They are hindered by the enormous number of medical schools and the want of a central power to define and enforce the conditions of entrance to the medical profession. Every State and almost every city does what is right in its own eyes and gives diplomas, or rather degrees, as it pleases, and the good schools have to compete with what are practically diploma-selling shops. There is only one cure for this—and that is publicity, and, perhaps we should add, public experience of the defects of men such as we shall see must be turned out under the existing system. There is one good sign—the attendance at regular medical schools increases at a greater rate than at those fantastic schools, the eclectic and the homœopathic. At the regular schools the attendance has increased 26 per cent. and at the eclectic 2 per cent., while at the homœopathic schools there is a falling off of about 3 per cent. The actual numbers for the year 1890 are: Regular, 13,044; eclectic, 600; homœopathic, 1128. The progress of homœopathy in this its favourite refuge seems rather of the backward order. Relatively to other professions there has not been much change in the United States. Among 100,000 inhabitants there are twenty-four students of medicine, eleven of theology and seven of law. In Germany the number of medical students per 100,000 is eighteen and in France seventeen. The saddest thing brought out by Dr. HOLMES is that the average time of study for American medical students is three years. As the schools are only open half the year it follows that the great majority of medical students graduate after an actual period of study of eighteen months. This is so serious a matter that we must quote our American contemporary's words: "In plain English it means that in the United States in 1890 4500 men were given the degree of doctor of medicine after studying on an average less than eighteen months." The evil would be the less if any security were taken that before commencing the study of medicine these gentlemen had given guarantees of good preliminary education, but, unfortunately, the number of those having degrees in letters or science has fallen considerably, showing, as our contemporary remarks, that medicine is not an attractive calling in America to college-bred men. Mr. BRYCE, in his great book on the American Commonwealth, gives us one of the salient intellectual features of the people of the United States "an intellectual impatience and a desire for quick and patent results." This is strikingly illustrated in the system which turns out a medical graduate with scarcely any previous training in eighteen months. The fascination which medicine as a study has for "college-bred men" is increasing in Europe. It is strange that it seems to be diminishing in the United States. The chief reasons are suggested in the report, and are interesting: (1) Medicine does not pay; (2) the study is not attractive; (3) instructors in colleges and universities do not encourage men to take post-graduate study in medicine; (4) university corporations do not credit work done in medicine and reward it as they do work done in other departments. These reasons are more or less forcible, and the last one, if it really exists, should be redressed without delay. Medicine in its biological aspects is one of the very greatest and most promising of the sciences and deserves the favour of the universities—but only when studied thoroughly and scientifically. The first reason ought to grow less forcible by means of an increased severity of educational methods and of examinations shutting out the

unworthy. We appeal to all classes in the United States to redress this scandal of the manufacture of doctors of medicine in eighteen months.

THE *Glasgow Herald* lately devoted a special article to the important question of the influence of the new Burgh Police (Scotland) Act on sanitary administration in villages. The Society of Medical Officers of Health has now also taken the matter up and has issued two memoranda on the subject, one to the local authorities and the other to Members of Parliament. Amongst politicians we hear occasionally about the representation of minorities, but in the Burgh Act this seems to be carried to the point of absolute ignoring of majorities. Any seven householders living in any populous place have at any time a right to demand of the Sheriff that he define the boundaries of such populous place. The definition is subject to appeal, but after the boundaries are once fixed, then, if the contained population amounts to 2000 or more, the sheriff *shall* declare the place to be a burgh and it must forthwith undertake all burghal functions, including those of public health administration. Thus, seven tipplers sitting round a tap-room table have the power to coerce a whole community (say, of 7000) into an entire change of local government. The thing is almost incredible, but there seems no doubt as to the interpretation of the Act. The effect on public health administration is likely in many places to be little short of disastrous. At present the county councils and district committees have charge of nearly all the villages, they being non-burghal, and the chief blots which remain in the sanitary system of Scotland are the little burghs formed under the Act of 1862. These burghs should for public health purposes have been placed under the rule of the district committees, but vested interests were felt to be too strong to allow this to be done under the Local Government Act of 1889. Nevertheless the county councils proceeded to the erection of hospitals, the formation of water and drainage districts and the appointment of sanitary officials for the area over which they had been given control, and now such areas stand every chance of being cut into fragments by the Burgh Act and of having only the fringe of their population left under the charge of the county councils. In the past it has been only the large cities of Scotland that have had any satisfactory health administration; but in 1889 the Local Government Act provided an admirable remedy for the defects of rural districts, and only the small burghs were left unattended to. Now the number of these burghs is to be indefinitely increased and that at the expense of the county districts, of which at present the populous places are component parts.

Various remedies suggest themselves, but in regard to all of them there is the pressing difficulty of want of time. The Burgh Act comes into force on May 15th and the congestion of business in Parliament is such as to make remedial legislation almost hopeless of accomplishment, unless it be of the simplest character and entirely non-contentious. The *Glasgow Herald* points out, very truly, that in their own interest, pecuniary as well as sanitary, many of the new burghs are likely to continue to use the hospitals at present erected, or in course of erection, by the county local authorities, that they are also very likely to continue to employ the same public health officers, and that in this way a large measure of uniformity will probably be attained; but it also urges the need of amendment of the Acts. The natural remedy would appear to us to be that the district committees should continue to be the sanitary authorities in the new burghs, or at least in the smaller of them, and that questions of the method of formation of burghs and of the rights of majorities and minorities should be left for settlement on general principles. But, as we have said, time presses, and if it were to be found that the easiest measure to get through Parliament would be one which would simply provide for a poll of the inhabitants and a majority vote, subsequently to the definition of boundaries and previously to the creation of a burgh, then the difficulty would be largely solved. But we confess that even that remedy hardly satisfies us. It might leave a community in this dilemma that, whilst its public health interests would be best conserved by its remaining under the County Council, all its other interests would be in the direction of its formation into a burgh. And the question is, Why cannot populous places have the best of both arrangements? Even if in a village of 3000 inhabitants a majority were of opinion that the balance of advantage lay in a burghal constitution, why should they be deprived of the sanitary supervision of the county council and why should they be compelled to sacrifice the one benefit to obtain the other? In short, such populations, whether burghal or non-burghal, should for public health purposes remain under the broader and more enlightened management that is characteristic of larger as compared with smaller sanitary areas wherever they exist. But there is no chance of this question receiving adequate Parliamentary consideration at present, and in these circumstances the best temporary way out of the difficulty may probably be found in the restoration of that veto power which was conferred on majorities by the Police Act of 1862, but which has been so strangely filched from them by the Act of 1892.

THE Senator ARNALDO CANTANI, a distinguished physician and bacteriologist of the Neapolitan school, has published a weighty protest against the injury to health, to agriculture, to social economy, and to the thousand and one interests of a people subsisting mainly on the products of the soil, inflicted by the wholesale destruction of forests that has prevailed for centuries in Italy. The subject has long been before the Italian Legislature, as, from time to time, THE LANCET has put on record; but the arrest of so ruinous a practice is even yet in the category of unrealised hopes rather than that of *faits accomplis*. To restore to the hillsides and the watercourses the trees of which they have been stripped bare is Senator CANTANI'S object in his latest work—"Elementi di Economia Naturale basati sul Rimboscamento" (Elements of Natural Economy based on Re-afforesting)—and the wealth of observation, of argument and of practical suggestion with which he pleads for the object in question must contribute effectively to its speedy and satisfactory fulfilment. Italy, he points out, will always find her chief source of revenue in the soil—a revenue solid, and not of the fictitious kind which fortuitous circumstances may create and undo. A conspicuous element in that source of revenue was once her magnificent woods, which, however, have met the fate meted out to similar natural products in other countries. The encroachments of population, with its daily

needs, whether in the manufacture of implements or in the provision of fuel, have been the first causes of the removal from mountains and valleys of their forest growth; and advancing civilisation has given the last blows of the axe to the woods that earlier wants had spared. Stripped of their trees, mountain and valley alike have, by torrential rainfall and floods, been robbed of their covering of soil, and with this has disappeared in many places the chance of remedying the initial evil by replanting. Other countries have awakened to the necessity of restoring what the woodman has cleared away, and in Switzerland, Austria and Germany schools have long been instituted to teach the rural population how to balance the felling process by that of planting and cultivating. Italy, however, has but one such school—that of Vallombrosa in Tuscany—a school, however, quite inadequate to give the many-sided instruction required for this great task of arboreal rehabilitation. As the Senator CANTANI points out, the climatic and hygienic aspects of reafforesting demand an intelligent conjunction of interests which the Vallombrosa school is far from inculcating. On the extent and the character of their woods depend the climate and the health of whole provinces. Forest growth balances the temperature, inasmuch as it acts on the hygrometric conditions and on the currents of air, diminishing the frequency of hailstorms and atmospheric perturbations. The good it effects is most vividly realised where man's interference has removed it—agriculture itself becoming impossible in the regions where it has succumbed to the tree-feller. The Senator CANTANI'S illustrations of this are equally striking and conclusive, his descriptions of the nemesis of forest-clearing not less lucid and convincing. Where woods are present the melting of snow is hastened, the snow being kept from so augmenting that when rapidly liquefied with the advance of the season it swells the affluents of the great streams and induces disastrous floods. Woods preserve in the air those normal hygrometric conditions, such as the degree of humidity, which, within certain limits, are necessary to the growth and health of the animal kingdom and the thriving of vegetation. Nature herself indicates, moreover, the kind of trees which are best fitted to secure these ends. The conifers, for example, more completely balance the humidity of a locality than the leafier growths, and should in moist regions be preferred accordingly. Mountain reafforesting protects the lower-lying plantations, antagonises the stronger air currents and impetuous winds, whether cold or warm, diminishes the frequency of *grandinate* (hailstorms) in the valleys and acts as a lightning-conductor. So much for the climatic influence of woods. Not less important is their utility from the economic point of view. They regulate the distribution of the waters, that element which of itself constitutes so much of a country's riches and motive power. Trees of lofty stems attract the clouds when the soil is too dry. When, on the other hand, the opposite condition prevails—that of excessive moisture—they give back the surplus to the heavens by evaporation, and, in turn, produce clouds which dissolve in rain either *in situ* or, transported by the winds, descend in showers on remote and thirsting districts. In a word, the woods occasion more frequent and less violent rains, and their destruction brings about a rarer but more torrential downpour, infinitely more damaging than useful. Of all these functions of forest-growth Italy is full of object-lessons skilfully utilised by the Senator CANTANI to reinforce his appeal to the Legislature to redeem the disasters of the reckless tree-felling so long practised; but it is in the purely hygienic part of his work that the profession will be most interested. Here the student will learn how the forest evolves the subtle effluvia so grateful in certain ailments of the respiratory organs; how, by its consuming many organic substances which favour microbes or parasitic germs, it antagonises malaria; and how, by absorbing water, it drains and depurates the soil. Very novel and instructive are his remarks on the effects of conifer plantations in malarious districts and how special insanitary conditions of the soil are obviated or neutralised by special trees cultivated locally on an extensive scale. It is, we learn incidentally, as a preliminary study to the threshing out of the whole subject at the next International Medical Congress that he has published his treatise, and certainly for the discussion in contemplation the student of his clear and closely reasoned chapters will come exceptionally well prepared.

A REUTER'S telegram which has appeared in the daily papers during the past week attributes to the Health Commissioner of Chicago the following remarks respecting our inquiry concerning the water-supply of that city:—"The Commissioners made a very imperfect investigation. Some of their samples were taken from the Chicago River. At the time they visited me I do not think they knew anything of the source of the water-supply. They were totally ignorant of the existence of the four-mile tunnel and seemed to have a very imperfect knowledge of any other. Their samples were sent to London without considering that the long voyage would cause a great and damaging change."

This is not a criticism of the report of our Special Sanitary Commission which appeared last week, as a mere comparison of dates is sufficient to show. The telegram is dated the 9th inst., our report having appeared on the 8th, and although an advance proof was sent to the Mayor of Chicago on the previous Wednesday it is physically impossible that that document can have been in the hands of the Health Commissioner by the date named. This, in fact, no doubt accounts for the lack of point in this gentleman's observations. He evidently guessed at the tenour of our report, and his guess went singularly wide of the mark. Thus he seems to have thought that a vague charge of having made an "imperfect investigation" would be a safe criticism, little supposing that we should lay before our readers an elaborate statement showing every step that we had taken and proving beyond cavil that the work had been most carefully and thoroughly carried out. More rashly still, he says that our Commissioners were "ignorant of the existence of the four-mile tunnel," upon which remark it is a sufficient comment to say that the first batch of samples provided for our analysis contained two specimens of Lake water at the "four-mile" crib expressly designed to test the quality of the supply drawn through this tunnel. The Health Commissioner would seem to claim some credit for having enlightened us upon this and other points connected with the water-supply system. We can only say that we are not aware that any person representing us has visited the Health Commissioner at any time, and we have certainly not

received any communication from him save those that were textually reproduced in the report of our Commission published last week. Our information on the point in question was derived, as we have previously explained, from the mayor's annual message and other official documents, not from verbal communications or interviews of any sort.

One point remains to which a word may be devoted. We are accused of bringing samples to London for analysis without considering that the "long voyage would cause a great and damaging change." Readers of our report know that this charge is absolutely incorrect. It was precisely for this reason that we did not undertake any bacteriological analysis of the water received. So far as chemical analysis is concerned the delay would tend not to damage but actually to improve the condition of the water since ample time was so given for the oxygen dissolved in the water or enclosed with it in the bottles to carry on its work of purification. It so happens that the Health Commissioner has himself supplied evidence that such an ameliorating change did take place upon the voyage. In a letter which he addressed to us and which we published last week (at page 846) he enclosed two analyses made by Professor HAINES. In these analyses the nitrogen was estimated in three forms: (1) as ammonia, (2) as albuminoid ammonia, (3) as nitrates. In forms 1 and 2 it represents what may be termed noxious contamination, in form 3 innocuous pollution. The change from the noxious to the innocuous form is effected by the agency of oxygen and constitutes the chief part of the natural process of what is called the self-purification of water. Now a comparison of Professor HAINES' results with our own shows that the proportion of nitrogen in the noxious form was greater and in the innocuous form was less in his samples than in those which were treated in our laboratory, so that self-purification of the water to a trifling extent had gone on within the bottles containing it, as might reasonably have been expected by any person competent to form an opinion and acquainted with the circumstances of the case.

It is not by the idle denial of facts that the authorities of Chicago can make their city and their guests secure against the great disaster of an outbreak of epidemic disease, nor is it by pointless contradiction that they can meet our criticisms or reassure the British public. But, as we have shown, the present utterance has clearly been delivered in haste and upon very insufficient information. We still trust that when they come to understand the position they will indulge in no manifestations of an impracticable temper, but will face their task in the spirit that "deserves success."

CHURCH OF ENGLAND SANITARY ASSOCIATION.—At a meeting of this Association held at the Church House, Westminster, on the 5th inst., the Rev. J. F. Kitto read a paper on One-roomed Homes, in which he complained that the cost of land in many parts of London was so great as to be absolutely prohibitive of any private scheme of building for the accommodation of the poor which would secure an adequate return for the outlay incurred. A way out of the difficulty could certainly be found when the conscience of the community had been brought to recognise the existing conditions as intolerable.

Annotations.

"Ne quid nimis."

A ROYAL SURGEON.

NOBLER by philanthropy even than by birth, Duke Karl Theodor, of the Royal House of Bavaria, completed on Friday, the 7th inst., in the presence of six colleagues, his two-thousandth successful operation for cataract. The operation was performed in his laboratory at Munich, an institution fitted up and maintained by his Highness for the study and cure of diseases of the eye. Duke Karl Theodor's career deserves a chapter to itself in the "Romance of Medicine." Born in the purple, with every temptation to lead a life of social, of lettered, or of artistic ease, he found himself when a mere boy irresistibly drawn to the healing art and set himself to qualify for the profession by patient study on academic lines. He laid a solid foundation in classics and physics for the medical structure he was to rear on it, and in the University of Munich he distinguished himself in every preliminary subject before graduating in 1872. His examinations, undergone in equal circumstances with those of his humblest fellow students, were passed with first-class honours, and immediately afterwards he proceeded to practise gratuitously amongst the poor as an ophthalmic surgeon. He founded near his château, on the lovely Tegern See, a district hospital for eye diseases, giving consultations to all sufferers from the same, performing with his own hand the more difficult operations, and, in concert with his noble consort, who acted as chief nurse, conducting each case personally to convalescence. In the summer he established at Meran, in the Austrian Tyrol, an ambulance hospital, to which ophthalmic patients from far and near flocked for advice and treatment, gratuitously given; and so successful—where success was possible—has been his practice, that many of the upper classes, suffering from eye affections, would fain have become inmates of his ambulance hospital. But except in very peculiar cases, in which from loyalty to professional usage he always requires a fee, none but the poor come under his treatment, all those who are able to pay being passed on by his Highness to colleagues and friends. Karl Theodor's popularity in the Bavarian and the Austrian Tyrol may be imagined. At the close of his summer campaign—a campaign infinitely more glorious than the most brilliant amongst those of his warlike ancestors—his return to his château on the Tegern See is quite triumphal in its character. On the occasion of completing his fiftieth birthday in August, 1889, this annual ceremony assumed something like national proportions and formed the subject of an ode by Oscar von Redwitz, "Heil dir, Karl Theodor," which has become a gem of his country's literature. Amidst all this active work of philanthropy Karl Theodor contributes ably to the scientific advance of ophthalmic surgery, and in "Virchow's Archiv," the "Zeitschrift für Biologie," and the "Archiv für Ophthalmologie" he is the writer of more than one masterly paper or monograph on pathological subjects particularly in ophthalmic medicine. Unique in the exalted class to which he belongs, Karl Theodor reflects on it an honour far beyond the power of ceremonial or pageant to recompense and establishes a precedent which will do more for his order than statecraft, however astute, or militarism, however brilliant.

EXTINCTION OF A GERMAN UNIVERSITY.

IN Europe there is one Teutonic University the less. Dorpat as a German seat of learning is no more. It had won for itself the name of the "Heidelberg of the North," and was undoubtedly a "centre and hearth of Germanism in the Baltic provinces." Founded in 1632 by Gustavus Adolphus,

it did good work amid many disastrous vicissitudes. Fire and flood assailed it; "suspended animation" overtook it in the war between Poland and Sweden; Ivan the Terrible and Peter the Great each left on it the marks of his destroying hand; it was razed to the ground in 1777 by one of the most frightful conflagrations on record. But the "vestal fire" of learning was never wholly extinguished on its site, and in all the faculties, particularly that of medicine, it did noble work within the last fifty years. We have but to indicate the splendid series of experiments on "Die Verdauungsäfte und der Stoffwechsel" (the gastric juices and metabolism), by Heinrich Bidder and Karl Schmidt and the not less fruitful monographs of Owsjannikow on the nerve centres to remind our readers of what physiological chemistry and neurology owe to the Dorpat school. But, as an outpost of German culture and German influence, its very eminence made it the mark of Russian jealousy, and the most absolute of European monarchs, responsive to the pressure of the Muscovite party, has with the stroke of the pen achieved what fire and flood and war were powerless to do—he has suppressed it. True, the Russian University of Zuriew rises on its ruins, but it will be long before the new seat of learning attracts the mind of educated Europe so powerfully as did the old. Measured by the progress made by other universities under the immediate patronage of the Czar, the University of Zuriew will have much ground to regain before it puts itself on a level with its German sisters or even with its predecessor of Dorpat. Science is cosmopolitan, and the exclusive policy prescribed from St. Petersburg for the regulation of thought and research does not suit the academic constitution. "Orthodoxy," except that which owes its allegiance to inductive truth, is a discouraging, dwarfing atmosphere for the "faculties"—that of medicine in particular. For twenty years the "German element" in Dorpat has been steadily undermined at the instance of Muscovite jealousy, and the interdict put upon the German language as an instrument of teaching signed its death-warrant as a school. The Baltic provinces, as a whole, and Livonia especially, take a good many steps backward by the suppression of Dorpat. Let us hope, if we hardly expect, that this is only preparatory to a leap or spring by which they may recover their lost ground.

THE PREVALENCE OF GLANDERS IN LONDON.

OWING to the continued prevalence of glanders in London, the County Council has issued orders of a more stringent character for its suppression than any hitherto attempted to be enforced in this or perhaps in any other country. The measures now decreed consist chiefly of compulsory isolation and marking of suspected animals, and slaughter of those which are affected with the disease; and at a specially convened meeting of the veterinary authorities of the Council held not long ago, it was stated that, as it had become necessary to take every possible precaution in checking the disease, the inspectors were in every case, whether of suspicion or of actual infection, to employ to the utmost limit the power vested in them by virtue of the new regulations. A rigorous system of marking every suspected animal, so as to render identification easy, was to be enforced, and in cases in which an owner of horses neglected to isolate any suspected horse, the inspectors were instructed to prohibit other horses leaving the premises until the regulations had been complied with. These regulations are complained of as drastic and oppressive, in view of the fact that the Council does not grant compensation for the value of the horses which must necessarily be destroyed. It is asserted by those who object to such measures being carried out without remuneration to the proprietors that "the Council is attempting to force horse owners to slaughter their horses by enacting oppressive and tyrannous regulations, such as surrounding the premises with police officers, fixing placards on the doors and preventing the removal of healthy horses from the premises, although such animals cannot spread the disease." No doubt there is a certain amount of hardship inflicted on those horse proprietors who have the misfortune to have glanders in their stables; but surely it is as much in their own interest, as in that of other owners, to get rid of the contagion as quickly as possible. There is much to be said for and against compensation; but there can be no doubt that if it were allowed for glandered horses there would be great scope for dishonest practices. Besides, this malady is not to be classed with such infectious disorders of ruminants as foot-and-mouth disease and contagious pleuropneumonia so far as compensation is concerned. To declare that horses which have been stabled with glandered ones cannot spread the disease is a dangerous doctrine, and one which should not be entertained. Every horse which has been in a stable or stable-yard where the disease exists ought to be considered as suspected and treated accordingly. The disease is no doubt a troublesome one to get rid of, and needs not only energetic measures, but also the hearty coöperation of those who have it in their stables, to effect its suppression. That it can be eradicated there can be no doubt whatever; for at one time glanders was quite a scourge amongst army horses and caused serious loss, but for five years there has not been a case reported in the United Kingdom, though the horses of marching regiments are in much danger of infection when they are billeted in the stables of civilians. That glanders cannot be spontaneously generated, as was generally believed at one time and is still in some quarters, is also conclusively demonstrated by the same fact and also by the circumstance that, though it has been imported into Australia from the United States, it was at once stamped out, and is unknown on that great continent and in New Zealand, though horses are fed, stabled and managed in much the same way as in countries where it reigns all the year round. It owes its existence and maintenance solely to its contagious properties.

PROSECUTIONS FOR THE SALE OF DISEASED MEAT.

Two cases have recently been tried at Huddersfield—the one on March 29th and the other on April 6th—for the sale of diseased meat. In the first case, Sykes Brook, a farmer and milk dealer, was charged with having diseased meat on his premises for sale and for the food of man, George Armitage, butcher, was charged with having it in his possession, and F. Sykes with slaughtering the animal. Mr. James Lightfoot, inspector of nuisances, who deposed to having found the meat on the premises of Sykes Brook on Feb. 28th, described the flesh as being wet, soft, crackling on pressure and devoid of fat; and the medical officer of health, Dr. Kaye, who examined the meat, pronounced it to be soft and sodden and the carcase emaciated. Dr. Kaye could not find any evidence of tubercle in the meat, but stated that the lungs were badly diseased from chronic inflammation, the effect of which would be to render the whole carcase unfit for human food. The flesh having been seized by the inspector of nuisances at the time that the cart had been loaded with it for its removal, a defence was set up that the cart was one ordinarily employed for the conveyance of the carcases of horses and that the meat in question was actually about to be conveyed to a knacker-yard. This defence was not admitted, and the bench, having found the case proved, fined Armitage £10, Brook £5 and Sykes 10s., each with costs. In the second case, Ezra Lightowler and Sarah Dyson were each charged with having diseased meat in their possession intended for the food of man. Having received information of the slaughter of a diseased cow, the medical officer of health and inspector of nuisances visited Lightowler's premises. Before any questions had

been asked, Lightowler protested that the carcase was not in his shop, and volunteered the information that the hind-quarters had been sold for food for poultry and the fore-quarters had gone to Staniland to be boiled for pigs. The ribs, stripped of their flesh, were discovered in an outhouse on the defendant's premises and showed evidence of tuberculosis. The forequarters were eventually traced to the premises of George Gronbach, pork butcher, and the hind-quarters to Mrs. Dyson. The flesh and lungs were seriously affected with tuberculosis. Gronbach, in his defence, stated that he had purchased the meat from a man named North, who brought it in a cart, but that he had not observed and did not know to whom the cart belonged. In the end the prosecution failed to establish the proof of the existence of an agency between Lightowler and North; and as Gronbach was the individual by whom the meat was being used, the case against Lightowler and Dyson was dismissed. The case demonstrates once more the necessity for an organised plan of systematic inspection of meat before it is offered for sale.

HOUSING OF THE WORKING CLASSES IN THE RURAL DISTRICTS.

Two and a half years have elapsed since the passing of the Housing of the Working Classes Act, yet only one rural authority up to the present has adopted Part III. of the Act and set about erecting cottages for the working classes. The Thingoe (West Suffolk) sanitary authority having obtained the permission of the Local Government Board to borrow £1500, have purchased four acres of ground at Ixworth and are proceeding to erect eight cottages with three bedrooms each. At the last meeting of the Chelmsford rural sanitary authority their medical officer of health recommended that action should be taken under this Act to provide the much needed accommodation in one of their parishes since private enterprise was likely to do nothing. Dr. Thresh showed that eight good cottages, each with a quarter of an acre of ground, could be built for £1320. To repay this in thirty years and maintain the cottages in repair would involve a charge of £73 a year. The rental would be £48, leaving the balance to be paid from the rates. At the expiration of the thirty years the rents would help to relieve the rates. It was decided to issue a notice to every member of the authority stating that this suggestion would be discussed at the next meeting.

A SERIO-COMIC STRIKE.

EVEN in the well-filled life of the medical practitioner there are found vacant spaces of leisure during which he may, if so disposed, concern himself with other than purely professional matters. Every branch of knowledge, every phase of culture has been enriched by the voluntary activity of such intervals. Other and less directly purposeful efforts have in like manner come within the series of diversions and the claims of healthy physical exertion and of social relationship have never been overlooked. It has been reserved for our own time, however, to devise one more such holiday occupation, and that of a kind peculiarly characteristic of the age. Five medical practitioners, we are told, accepted office as judges in a "Grand National Baby Show" recently held in Melbourne, and for three days exercised the novel responsibilities of their exalted station. The appointment was not honorary, but by a curious oversight the judicial salary does not seem to have been fixed beforehand. The effect of this omission was somewhat dramatic. At the close of the exhibition each member of the medical bench sent in a bill for £5 on account of his professional services. The director could not meet even this moderate demand. The umpires, not to be beaten, struck work to a man and withheld their decision. As yet, it appears, no arrangement has been come to. The five are still obdurate and the suspense endured by the mothers of the show-babies may be imagined. As regards the question of right in this case, there can be no doubt that the judges are entitled to some salary and their own estimate of this is by no means a high one. Their wisdom and professional taste, in assuming with all seriousness in a matter so trivial their thankless judicial function, are, in our opinion, open to question, and will not tend to raise them in the esteem of their medical brethren.

WORK AT A JAM FACTORY.

THE death of a girl employed in a jam factory has excited considerable interest and some controversy. We will not touch upon the disputed points of the case and we do not wish to venture to express an opinion on the sanitary or insanitary condition of the factory and of the work without having first carefully inspected both. One fact, however, seems clearly established—namely, that the girls work more than nine hours a day and yet take their meals in the same rooms where they work. It is urged that many of the workers come from long distances, and that it would not be practical to turn several hundred girls into the streets for every meal. That being the case, a special dining-room should be provided on the premises. The fact that some 500 girls live and eat for more than nine consecutive hours in the same rooms where jam is being made is not calculated to promote the health of the girls or to secure the purity of the jam. The workgirls, we are told, are reluctant to leave the factory for their meals, preferring to chat with each other. If they asked for a special permission to go out for their meals this would be granted. But would it not be rather awkward to grant some 500 special permissions every day? The point is that, on the contrary, the girls ought to be prevented from taking their meals in the work-rooms. We should have imagined that it would be to the advantage of all concerned to have organised on the premises a kitchen and dining-room, where the workpeople could enjoy cheap wholesome meals and a little necessary rest.

THE PREVALENCE OF SMALL-POX.

THERE have been comparatively few fresh centres of small-pox during the past week, and in most of the towns where the disease has lately been prevalent the numbers have notably declined. One of the exceptions to this is to be found in Halifax, where small-pox has been prevalent for twelve months or more, many of the recent cases being attributed, rightly or wrongly, to hospital infection. Fresh cases have occurred at Manchester, Bradford, Bingley, Chester, Northwich, Leicester and other places. The new cases in Glasgow show great fluctuation in numbers from week to week. Last week there were 32, as compared with 17 in the preceding week. In the Vale of Leven 12 cases have occurred, and revaccination is being largely practised. Cases are also reported from Nairn, Greenock, Govan, Kirkpatrick, Galashiels and Aberdeen. In Montrose there have been three cases, and the community is being brought face to face with the question of special hospital accommodation. Acting on the advice of their medical staff, the infirmary managers have refused to admit small-pox cases on account of the danger of infection to other inmates, and it seems that great public indignation has been aroused by this decision, especially as some wards had originally been intended for infectious diseases. But the great risk of treating small-pox under the same roof with other diseases is so well and has been so long known that the local authority has had ample opportunity of profiting by this knowledge and of erecting a separate hospital for infectious diseases, and the fact that it has neglected this obvious duty gives it no right now to call on the infirmary managers to risk the safety of the other patients, for whose well-being they are primarily responsible.

If people choose to scout the necessity for preparation against an absent danger, they must, we fear, pay some penalty when the danger comes, and in the meantime the result in Montrose is that the three patients are being treated, according to a correspondent of the *Dundee Advertiser*, "in the small houses in which they live, all of which are in thickly populated parts of the town." In the case of small-pox it is fortunate that the people have another remedy to fall back on, and whoever chooses to protect himself and his family by vaccination and revaccination need have no anxiety as to where the cases are being treated.

UNQUALIFIED PRACTITIONERS.

WE are glad to see that attention is being directed in the columns of our lay contemporaries to the evils attending the employment of unqualified practitioners. It is well to make clear that the General Medical Council has denounced the employment of unqualified assistants, excepting under the immediate supervision of the principals. Medical men now incur a great responsibility and the risk of having their names removed from the Register by employing unqualified assistants in the responsible charge of patients. It must be said, on the other hand, in mitigation of this offence on the part of some practitioners, that the public are not without blame. The disposition to shirk payment for medical services and to pay practitioners in the humble ranks of practice meanly is a scandal and an immorality, and it lies at the door of every man who has the means to pay his doctor as he pays others who render him absolutely necessary services. The injustice is the greater because the medical practitioner is practically at the service of all classes by night and by day. By all means let the lay press be used for the exposure of this evil; but let the evil be viewed in all its bearings and let medical service be treated on its merits.

ESPOSIZIONE INTERNAZIONALE DI MEDICINA AT ROME.

AN Italian correspondent writes, under date Rome, April 6th: "The Under Secretary of State for the Home Department has sent an official intimation to all the prefects throughout the Italian peninsula and islands, in which he reminds them that, on the occasion of the Eleventh International Medical Congress to be held in Rome, there will also be an "International Exposition of Medicine and Hygiene" promoted and directed by a committee appointed *ad hoc* and presided over by the Commendatore Pagliani, the head of the Sanità Pubblica of the kingdom. The intimation further dwells on the very great importance of the Exhibition, not only for the simple advantages it will incontestably bring to the progress of science and industry, but also because it is calculated to place in bold relief the vast improvement wrought in these later years on the hygienic condition of all parts of Italy. Accordingly, to render the Exhibition a more complete and conspicuous success, the Under Secretary of State for the Home Department requests the loyal and effective coöperation of the communes and of the provinces, in whose interests and by whose deliberations were initiated the great projects and undertakings relative to the reclamation of the soil and the rehabilitation of the dwellings, to the construction of hospitals and aqueducts, and to the rebuilding and rearrangement of educational establishments, of cemeteries and of all works of a cognate kind. The detailed enumeration and description of such projects and undertakings, whilst constituting a feature of the 'Esposizione' which must redound to the credit of the kingdom, will reflect peculiar honour on those communal or municipal bodies which have initiated and become responsible for so much good sanitary work. All those public corporations, therefore, which have thus qualified to be represented in the 'Esposizione' are invited by the Ministry of the Interior to coöperate with that department of State in putting the 'movimento igienico' of Italy during the last decade as much *en évidence* as possible. I may add that the progress to be thus attested will be especially striking in the hydrological and balneological development effected of late years, a development which must convince the world of the wealth enjoyed by Italy in mineral waters and climatic resorts, and also of the energy with which she is at length devoting herself to turning them to proper account."

THE PREVALENCE OF FEVER.

SCARLET FEVER still shows a marked diminution of incidence, less than a thousand cases having been notified in the chief towns of the kingdom during the week ended April 1st. London contributed exactly a third of these, the next in order being West Ham, Leicester and Birmingham. Diphtheria was about one-quarter as prevalent as scarlet fever, but more than half of the cases occurred in the metropolis, Cardiff and West Ham coming next. On the other hand, only one-eighth of the enteric fever was metropolitan. The London scarlet fever mortality exhibited a rise, being much above the average. Though a somewhat greater number of scarlet fever patients were admitted into the fever hospitals, the numbers remaining were lower than the week previously. The diphtheria mortality still continues high, being double the average, and more cases were admitted to hospital. The influenza mortality in London was last week above the average of the previous three weeks.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE collection of portraits of physicians and surgeons in the library of the Royal College of Surgeons of England has just received a very notable addition from Mr. T. Madden Stone, who was for many years officially connected with the College. Throughout a large part of his life Mr. Stone has been making the collection which he has now generously handed over to the College library. Many of the portraits are proofs and in a very fine state. The value of the collection is increased by the fact that autograph letters are attached to very many of the portraits. Mr. Stone has also been an enthusiastic autograph collector, and has acquired a very fine collection, independently of those added to his pictures. The medical and surgical part of these autographs has been presented to the College. There are letters from John Hunter, Albinus, Boerhaave, and from nearly every surgeon of note of the present century. There are also many interesting papers relating to John Hunter, which will form a valuable item in the Hunterian Exhibition to be held at the College on July 5th.

THE JEWS AND VACCINATION.

AT a time such as this, when so many boards of guardians are evincing an indifferent spirit in reference to vaccination in their districts, it is especially interesting to learn from Dr. Tatham's return for the last quarter, ending Dec. 31st, 1892, the steps which have been taken in the city of Manchester by the Jewish Board of Guardians in consequence of the prevalence of small-pox. They have issued a regulation that no relief shall be given at Passover (Matsos) unless a medical certificate of successful vaccination or revaccination be produced. Handbills setting forth these conditions are printed both in Hebrew and English and circulated amongst the Jewish community. The plan is said to have been fairly successful; at any rate not a single Jew has been found to be infected with small-pox during the epidemic. Although, of course, the immunity of the Manchester Jews may not be entirely due to the regulation in question, the action taken by their board of guardians is nevertheless of very considerable interest. In respect to the Christian population, all Dr. Tatham's suggestions have been at once

acted upon by the boards of guardians having jurisdiction in the city, but in spite of posters drawing attention to the necessity and facilities for vaccination and re-vaccination we read that those of the public who are in most need of protection "have treated the matter with almost complete indifference; so that practically revaccination had not been accepted to any appreciable extent by the working classes in Manchester by the end of 1892." It must certainly be admitted that the Jews have set an example which should be widely followed, more especially since the present outbreak in so many parts of England has to a very large extent been originated and spread through the agency of tramps who seek relief from place to place.

THE LIABILITY OF A PRINCIPAL FOR THE ERRORS OF A LOCUM TENENS: A HARD CASE.

AN action, Williams *v.* Soden and Meaden, at the Cardiff Assizes illustrates the above point in a way that must be seriously considered by practitioners. Mr. Williams was a patient of Mr. Soden. In the absence of Mr. Soden he requested the attendance of Dr. Meaden, who was acting as locum tenens to Mr. Soden. Mr. Williams brought an action for £500 damages, alleging an error in the prescription, which was, however, denied by the defence. The result was a verdict against both the principal and the locum tenens for £27 and costs. The result is very hard on Mr. Soden, who had taken every reasonable care that in his absence his patients should be well and promptly served and who yet is likely to be heavily mulcted for an alleged inadvertence for which he had not a shadow of personal blame. The hardship must not be measured by the damages awarded. The legal expenses, it is said, will amount to £200 or £300, which is a serious hardship. The case is one that appeals to medical men generally. Mr. Soden is entitled to the sympathy of the profession and no doubt his neighbours will take steps to express this feeling in a practical form.

ALIEN IMMIGRATION.

THE returns asked for in the House of Commons "of the number of aliens that arrived from the Continent at ports in the United Kingdom during the month and three months ended March 31st, 1893," has been issued. The classification of ports of departure is as follows: Gothenburg, Hamburg, Christiania Arendal and Christiansand and other continental ports. From these returns it would appear that the total number not stated to be *en route* for America in the month ended March 31st was in 1893 3193, as compared with 2789 in 1892; that the totals for the same period of those *en route* for America were in 1893 9381, against 11,975 for 1892; whilst the numbers for the three months ended March 31st, 1893, were 6959, against 7634 of those not stated to be *en route* for America and 15,829 against 19,800 of those *en route* for the New World. These figures make a grand total of settlers and travellers of 22,788 for 1893 and 27,434 for 1892. These statements, showing a diminished emigration, are satisfactory, except the figures for the month ending March, 1893, which show an increase of immigration during last month into this country. The exception, however, is important to us. It is explained that the number of sailors included with the aliens who arrived at ports in the United Kingdom *not en route* for America in the month of March, 1893, was 1034, against 951 in the same month of 1892—that is, 83 of the surplus of last month are due to a larger number of sailors. This, however, deducts little from the increased influx of aliens. What are the causes of this increase in immigration to this country last month whilst emigration of aliens generally has diminished? It may legitimately be conjectured that the experience of those who settled in England in 1892 must have been sufficiently encouraging to cause others to follow their example in 1893. It is probably in a measure due also to the action of democratic America that this monarchical country has to harbour an increased number of refugees. To persons escaping from abject misery the freedom from persecution which even British squalor enjoys may be a luxury. We are inclined to believe that the alien prefers the tyranny of the sweater to the knout of the autocrat. The natural sympathy with misfortune which Englishmen have ever evinced must, however, be regulated by wisdom in a crowded civilisation such as ours. The economic and sanitary disturbances calculated to be brought about are very serious considerations. Is the difficulty to be met by the exclusion of the alien or by a modification of the conditions of social life in England? That pressure must relieve itself in some direction is manifest. We trust it may do so without the infliction of undue hardship either upon the destitute seeking an asylum or upon the hard-working children of our own soil.

MEDICAL EVIDENCE IN THE AYR POLICE COURT.

IN the Ayr Sheriff Small Debt Court, lately, Dr. R. A. Morton sued Mr. C. B. Rowan, Procurator-Fiscal of the Borough, for 10*s.* 6*d.*, his fee as a witness at the Ayr Burgh Court in a case of assault which he was attending. The refusal of the Procurator-Fiscal to pay the medical man his fee surprised, as it well might, the Sheriff. Mr. Lockhart, for the pursuer (plaintiff), said his client had received a letter from Mr. Rowan, in which he said, "Of course you are entitled to a fee," and that he had invariably paid fees to gentlemen attending the Burgh Police-court. Mr. Rowan made two or three lame excuses. First, he said Dr. Morton was not called to give skilled evidence, but was called as the possessor of knowledge. This distinction is not respectful to the medical profession, however creditable to Mr. Rowan's legal acuteness. But the distinction was too fine for the Sheriff; his only doubt was as to the person responsible for the fees, on which Mr. Rowan then took his stand, and for light on this point the case was adjourned to May 11th. It is pitiable to see an expert witness so treated in a legal court over a very modest claim.

THE INTERNATIONAL MEDICAL CONGRESS.

AN Italian correspondent writes from Rome under date April 3rd: "The Central Committee here is in daily receipt of communications from foreign Governments and medical schools announcing the names of representatives of both at the Congress, and in the case of the latter intimating now and again the subject of the thesis or paper their representatives propose to read. The National Committee of Roumania has, under the auspices of the Society of Medical Sciences at Bucharest, been constituted as follows: Dr. C. D. Severeano, professor of medicine in the University, President; Dr. N. Racoviceanu Pitesti, secretary; Dr. Z. Petrescu, professor of therapeutics, Dr. D. Drăghiescu, professor of obstetrics, and Dr. A. Leonté, surgeon-in-chief of the hospitals, councillors; and at its last sitting a strong contingent of Roumanian delegates, representing every branch of the profession, was formed to take part in the Congress. Their names include those of some of the leading men of science in the Balkan peninsula, whilst Turkey completes the list with Dr. von Millingen and Colonel Behdhjet Bey, well-known authorities in Ottoman medicine. The national German committee has appointed a sub-committee at Munich for the kingdom of Bavaria, consisting of Professors Spatz, Winkel, Rothmund, von Zenken, von Leube, Merkel, Hofmann, Roth, Zöller, Schreiber and the distinguished head of the Munich clinique, Dr. von Ziemssen. Its nominees will be announced to the Central Committee here in a few days. The Imperial Principality of Görz-Gradisca has already appointed its delegates—Drs. Matteo Babarowich, Ernesto Fratrich, and Arvane

Luzzatto, who are also members of the Central Committee of Vienna. The Dutch Society of the White Cross, in reply to the invitation of the Central Committee, has nominated as its representatives Drs. P. I. Barnoms and J. W. Schmit, members of the Society in question, whilst Holland herself is efficiently represented by Professor J. B. Stokvis. The United States of America have already deputed a strong contingent to the Congress, and of the names which have up to now reached the Central Committee here I may mention Dr. R. C. Dean, representing the American Minister of Marine, and Dr. Charles R. Greenleaf, Surgeon-General of the United States War Department. Up to this morning fresh intimations of a liberal reduction of fares for intending 'Congressists' have come in from various railway companies on the Continent, and it is believed that ultimately there will be no exception to this special regulation on the part of any steamboat or railway directorate in Europe."

THE SELECT COMMITTEE ON DEATH CERTIFICATION.

THIS committee will, we understand, hold its first sitting to-day (Friday). There is no doubt a great deal of very loose certification of death, and the committee will do a great service if it can only succeed in indicating the chief causes of this great evil and in suggesting improvements in the law. Facts as to stillbirths and the certification by midwives of them and of children dying a few days after birth certainly require investigation. Then a great number of people die who have not been attended by any regular medical practitioner and their friends succeed in getting them buried without a coroner's inquest. Only less unsatisfactory is the case of the probably still larger number to whom a medical attendant is called, not to "obviate the tendency to death," but because it cannot be obviated. It would be an improvement in the law or in the form of certificate to require more definite information as to the length and frequency of attendance. A medical man exists, not to fill up death certificates, but to prevent the necessity for them. Yet thousands die in this civilised land as unhelped and unrelieved as if they were in the middle of Africa. In cases of cremation it is absolutely necessary to require reliable evidence of the cause of death; otherwise it might easily be used as a means of concealing crime and preventing exposure. Sir Walter Foster may be trusted to keep the investigation on practical lines.

SMALL-POX AT LARGE.

THE cases of small-pox reported for the week ending March 25th in towns where notification is carried out amounted to the large figure of 228, and this number increases steadily every week; but it does not in any proportion show the amount of prevalence of this disease throughout the country. There are a number of tramps wandering about the country with a modified form of small-pox, and one of them appears to have come in contact with an unvaccinated person at Oxford lately, where the labour master, who had not been vaccinated, was seized with small-pox of a very virulent type, contracted from a casual who was well enough to walk to Thame, a distance of seventeen miles, where his condition was detected and he was detained. At Luton there has been a second case of small-pox at the workhouse, and as the guardians for the last year or two have not enforced the vaccination law the consequence is that there is a large proportion of children unprotected. The guardians at Luton must indeed be a short-sighted body if they cannot see that in this matter not only the lives of the children are at stake, but that the pockets of all the inhabitants may be made to suffer for neglect in carrying out the laws of the country with regard to vaccination. A short time ago, on a Friday, a man from a lodging-house in Islington, having the small-pox eruption developed, presented himself at the house of a medical practitioner in the neighbourhood. The medical man immediately notified the case. The inspectors lost no time in visiting the lodging-house; but the man could not be found. Days of search elapsed and it was not till the following Tuesday morning at two o'clock that he was discovered in another lodging-house about a mile distant. Comment is needless. The unprotected will suffer, and they will have no one but themselves to blame.

DEATH OF PROFESSOR RAWDON MACNAMARA.

WE much regret to have to announce the death, from acute pneumonia, of Professor Rawdon Macnamara of Dublin, which took place on the 12th inst. Professor Macnamara represented the Royal College of Surgeons in Ireland on the General Medical Council and was one of the surgeons to the Meath Hospital. His genial disposition, cultured mind and shrewd judgment will be much missed by his colleagues at the General Medical Council. We hope to publish an account of his life and work in our next issue.

MIDWIVES' CERTIFICATES OF INFANT DEATHS.

MR. BRAXTON HICKS very properly held, on the 3rd inst., an inquest on a baby ten days old. A certificated midwife had given a certificate of death and was surprised to hear her action questioned. She pleaded to an experience which covered 7000 cases. But this in no way enables her to say what a child dies of, or to satisfy the public that if a medical man had been called in the child might not have lived. Her innocent answer to remonstrance suggests a direction in which the Committee on Death Certification may probably find some light.

PRECAUTIONS AGAINST CHOLERA IN ISLINGTON.

A CIRCULAR has been addressed by Mr. Harris, medical officer of health for Islington, to medical practitioners, intimating the intention of the Sanitary Committee to appoint medical men, willing so to act, for attendance on cholera cases. Provision will also be made for the appointment of druggists to supply medicines prescribed by night or day. It will be important also to have a staff of nurses in reserve. The fees for the services of the medical men are by no means exorbitant, 2*s.* 6*d.* for a visit by day and 5*s.* for a visit between 8 P.M. and 8 A.M.

LONDON POST-GRADUATE LECTURES.

THE general practitioner of medicine, always having work of a practical nature at hand and being perpetually *en vidette*, scanning a wide horizon on any point of which the scouts of the King of Terrors may suddenly appear, cannot be too well equipped for his important duties. Behind him are the reserves in various departments of practice, who have, as a rule, the leisure to develop more highly their usefulness in their respective spheres. Their usefulness is, however, more limited and their alertness is less constantly strained; but their power is naturally greater under certain circumstances than those of their fellows fighting in the first line. It is by these, as a rule, that the necessity for the reserves being called into action is usually notified. How needful, then, that the latter should be thoroughly conversant with every advance in the knowledge of the defensive and offensive implements of the great humane "service" whose aim is the combat with death and disease. The present course of vacation lectures is calculated to promote the efficiency of the latter on two very material points—the bacteriology of disease and sanitary science generally. The bacteriological course, illustrated by specimens, diagrams and lantern sides, will be held under the direction of Professor Crookshank and Dr. Hewlett at King's College, between twelve and one o'clock on the first

five days of the week from April 17th to 28th. The course of demonstrations and lectures in hygiene and public health by Professor Wynter Blyth and Dr. Sykes will take place at 3.30 P.M. on the same dates at the Parkes Museum, 74A, Margaret-street, Regent-street, and will be illustrated by exhibits in the museum, lantern slides and experiments. We trust that this genuine effort to promote the efficiency and interests of the practitioner will meet with the appreciation and success which it deserves. The fee for the bacteriological course is £2 2s.; that for the sanitary science course £1 1s. The fees are payable to the secretary, Dr. Fletcher Little, 32, Harley-street, W.

THE death of the eminent botanist, Professor Alphonse L. P. Pyramus de Candolle, is announced. He was born at Paris in 1806, and for many years was director of the Botanic Garden at Geneva, to which post he was appointed on the death of his distinguished father, Augustin Pyramus de Candolle. Professor Alphonse de Candolle was a lecturer in the Academy at Geneva, was a member of various learned societies in Europe, including the Royal Society of London, and at the time of his death was the possessor of an honorary doctor's degree of both Oxford and Cambridge Universities.

A CIRCULAR letter has just been issued by Dr. Macgregor, Aberdeen, secretary of the Aberdeen committee of the James Anderson Memorial Fund, inviting subscriptions from personal and professional friends of the late Dr. James Anderson. Appended to the letter is a list of those who have already intimated their desire to contribute, and over £100 has been promised in sums varying from £20 to £1 1s.

LUIGI BERARDI, whose attempt on King Humbert we commented on last week, has, after examination by the leading Roman alienists, been pronounced a dangerous lunatic and is now in the wards reserved for such patients in the Central Asylum. He has relapsed into complete taciturnity (*assoluto mutismo*), the prelude, it is anticipated, to ultimate dementia.

THE Royal Commission upon Vaccination met again on Wednesday, after the Easter recess, at Great George-street, Westminster, Sir James Paget presiding. Evidence was given by Dr. William Husband, of Edinburgh, Director of the Central Vaccination Institution of Scotland.

A SPECIAL general meeting of the Pathological Society of London will be held at 20, Hanover-square, on Tuesday evening, April 18th, at 8.30 P.M., to consider certain proposed alterations in the by-laws. The suggested changes have to do with the election of candidates for office.

THE annual dinner of the Pharmaceutical Society of Great Britain will be held in the Whitehall Rooms, Hôtel Métropole, on Tuesday, May 16th, at 6.30 for 7 P.M.

THE annual dinner of the Army Medical Department will be held at the Hôtel Métropole on Monday, June 12th, at 7.30 P.M.

BERWICK INFIRMARY.—The report read at the annual meeting of this institution last week was not distinguished by anything of a sensational character. The charity runs on smoothly along the lines of its beneficent career, its income slightly exceeding its outlay. At a meeting of the managing committee it was agreed that a minute be drawn up expressing deep regret at the death of Dr. P. W. Maclagan, and that, in memory of their late senior medical officer, the ward hitherto remaining unnamed should be called the "Maclagan" ward.

THE ANNUAL MEETING OF THE BRITISH DENTAL ASSOCIATION.

To say that the recent meeting of this Association was in every sense of the word a success is only to repeat what we have year by year reported. It was at one time proposed that the place of meeting this year should be Chicago, and though there exist precedents of English medical societies holding their meetings abroad the proposal was reasonably negatived on the ground of the impossibility of many of those who would otherwise attend giving up so much time or caring to incur the necessarily large expense, so Birmingham was selected. But one change from the usual routine has been made, and that is the time—Easter—instead of the long vacation, about the convenience of which opinions vary, though certainly the number of members who assembled was up to the average. Demonstrations were a most attractive and important section, an extra half-day being devoted to them, and few could look on and fail to be instructed. Perhaps the special feature of the meeting was the microscopical section. Messrs. Mummery, Tomes, Kauffmann, Lloyd Williams and quite a number of others showed themselves to be workers in the fields of bacteriology, pathology and dental comparative anatomy.

Amongst the general papers, Mr. Quinby again brought forward a subject which he has evidently much at heart—viz., the Extraction of the Molars as a means of Preventing Decay—and, whilst admitting that there are some cases where the bicuspids might advantageously be sacrificed, he prefers, as a rule, to remove the six-year-old molars. Messrs. S. J. Hutchinson and Morton Smale described a method of treating that most refractory form of oral deformity—protrusion of the upper incisors and canines. Mr. Booth Pearsall of Dublin discoursed on the arrangement of dental museums, and although, doubtless, many useful ideas were enunciated few curators would be disposed to accept the whole scheme. Dental education, especially with reference to mechanical training, received attention in papers by Messrs. Constant and Watts, and both advocated a more thorough teaching of this subject by the special dental schools. Mr. Blandy touched on that delicate subject, "Advertising," to which we referred in THE LANCET of last week. It is hardly necessary to add that Mr. Breward Neale, the popular President, did all in his power to make the social arrangements a success.

THE ASSOCIATION FOR PROMOTION OF REFORM IN MEDICAL EDUCATION AND THE DRAFT FINANCIAL ORDINANCE OF THE SCOTTISH UNIVERSITIES COMMISSION.

WE published in THE LANCET of March 25th the opinion of the General Council of the Edinburgh University on the Draft Financial Ordinance recently issued by the Scottish Universities Commission, by which it was seen that the ordinance in most of its essential proposals was unanimously condemned. The Edinburgh Medical Reform Association is no less clear in its denunciation. At a meeting recently held this Association approved of a memorandum the more important points in which are as follows: The Association heartily approves of the principle that class fees are not to belong entirely to the respective professors, but are to be paid to the University, but it objects in the strongest possible manner to the proposal to form a fee fund common to all the faculties, the effect of which would be to apply medical class fees to the support of chairs outside medicine. The memorandum insists that the medical school ought to have the first claim on its own class fees for the establishment of new professorships and lectureships, and for laboratories and museums, and the encouragement of research, without prejudice at the same time to its claims for a due share of the general University funds. The Association reminds the Commission that on previous occasions it has pointed out in detail that the medical faculty is in need of more teachers, of teaching in more subjects, of better appliances and so forth. These needs are regarded by the Association as urgent and it blames and charges the medical

faculty—that is, the medical professors of the University of Edinburgh—with having entirely failed to point out these needs in their representations to the Commission. The Association then reminds the Commission of the suggestions it made upon a previous draft ordinance as regards giving power to the University Court to make what financial arrangements they thought expedient when a chair became vacant, as regards payment of a fixed stipend and a share of class fees, the establishment of new professorships and lectureships and other matters which are specified in detail; and the Association says that few if any of the medical reforms and extensions most urgently called for can be carried out under the Commissioners' scheme, and the opportunity will be lost of devoting any part of the medical class fees to these purposes. It is asserted that even on financial grounds the Commissioners' proposals are likely to fail, for the medical class fees upon which they rely to maintain the proposed salaries of the whole professoriate will prove to be inadequate. These fees, it is stated, are already below the limit at which they can possibly achieve what is expected of them. The Association considers that the medical school has every reason to look with alarm upon the prospect, and the Association feels bound to offer the most strenuous opposition to the scheme. The Association further disagrees with the principle of fixing by ordinance the salaries of professors. The question being purely one of circumstances ought to be left to the University Court. It disapproves of fixing a maximum limit beyond which no exertions of his own would avail to raise the salary of a professor and holds that a professor should be encouraged by a material interest in his personal success; whilst this should also be kept in check by the strictest provisions against overcrowding of classes. The Association suggests that whilst part of the actual fees drawn should be credited to the professors as an incentive to exertion, the University Court should be left to make its own financial terms with the different professors. The Association further points out to the Commission that professors nominated by the Crown after April 6th, 1882, were appointed subject to any changes which might be made in their position or emoluments by the Commission now sitting—that, in fact, they have no vested interests; and yet the Commission has disregarded this and propose to treat them as if they had vested interests like professors otherwise or previously appointed. This is regarded as unjust to the University. The Association further draws attention to an important omission in the ordinance, no regulations being made for the chair of Clinical Medicine. The fees of this chair have been allocated to the proposed general fee fund without any provision for remunerating the professors of clinical medicine who do the work. The Association points out that there is no provision made for new chairs in medicine and no express provision made or directed to be made for the new lectureships which are necessary. There are also no directions as to what is to be done with lecturers' fees within the University. In conclusion, the memorandum says: "The importance of research meets no recognition in this ordinance. The Association holds strongly that there ought to be provision made for its promotion. It would be difficult indeed to exaggerate the importance of this consideration, if the University of Edinburgh is to have the lead, or even to hold her own, in the medical and scientific world. The Association is, indeed, disappointed that the commissioners have not taken a broader view of the actual and prospective requirements of such an institution as the University School of Medicine in respect of these essential particulars." The memorandum is signed in the name of the Association by Dr. D. Berry Hart and Mr. C. W. Cathcart, the honorary secretaries.

BOLTON INFIRMARY.—On Thursday, the 6th inst., the committee of the Bolton Infirmary held a meeting for the purpose of appointing a successor to Mr. Nathan Raw, M.D., B.S., who for two years had held the post of senior house surgeon to the infirmary, and who has been elected medical superintendent of the Dundee Royal Hospital. There was a large number of candidates for the house surgeoncy, from amongst whom Mr. George Wilkinson, M.A., M.B., who for the last eighteen months had discharged the duties of the junior office, was selected. Dr. Raw, on his resignation, received from his committee a highly flattering address, written on vellum, together with various tokens of esteem from his former colleagues and other officials connected with the charity.

CHOLERA.

THERE is but little to add this week to our chronicle of the progress of cholera. The disease continues to manifest itself in several provinces of Russia and there can be no doubt of its having extended beyond the Russian frontier into Galicia. In France the epidemic still prevails at Lorient, where several deaths from cholera are of daily occurrence. The Senate of Hamburg has sent a number of medical men to Cuxhaven with instructions to take active measures in the event of any cases of cholera being detected on any of the ships arriving from abroad.

CHOLERA IN FRANCE.

(FROM OUR SPECIAL CORRESPONDENT.)

THE PRESENT EPIDEMIC AT LORIENT.

Deaths from Cholera in 1892.—Proportion of Deaths to Population.—The Revival of the Epidemic.

THE news from Lorient and from La Rochelle is far from encouraging, and it seems well nigh certain that the cholera epidemic only commenced in France last summer and is likely to continue this summer. Before the epidemic is further developed it will be well to see where it left off in 1892. For this purpose, there is appended firstly a map of France, which shows at a glance which departments were invaded by cholera and to what extent the disease spread. Though the epidemic commenced at Paris it caused a much higher fatality at Havre. Thus it is seen that the Department of the Seine Inférieure, which has Havre for its principal town, is the only department shaded in the manner chosen to indicate that the deaths from cholera were above the proportion of 6 per 10,000 inhabitants. Indeed, the actual number of deaths officially recorded in the department was 943, and this equals 11·2 per 10,000 of the population. Next on the list is the Department of the Seine, which has Paris for its centre, and here there are 1878 deaths, or 5·9 per 10,000 inhabitants. Practically the Department of the Seine means Paris and its suburbs—that is to say, the part of France with which we in England have the most constant and daily intercourse. Third on the list is the Department of the Morbihan, with 231 deaths, or 4·2 per 10,000, and there the intercourse with England is but slight. The Seine-et-Oise, which is close to Paris, follows next with 212 deaths, or 3·3 per 10,000, and then comes our nearest neighbour, the Pas-de-Calais. This department is but twenty-one miles distant from the coast of England, and here there are 271 deaths, or 3·1 per 10,000, officially recorded. But when making inquiries on the spot I ascertained that the number of deaths was somewhat higher than this official record. Thus there were 24 and not 17 deaths at Calais; 31, and not 27, at Boulogne; 76, and not 51, at Portel. Following in order of gravity are the departments of L'Eure, 95 deaths, or 2·7 per 10,000; the Manche (including Cherbourg), 130 deaths, or 2·5 per 10,000; the Bouches-du-Rhône (where the disease was confined almost exclusively to the port of Marseilles), 90 deaths, or 1·4 per 10,000. Now comes the third category—namely, the departments where the number of deaths was less than 1 per 10,000 inhabitants—namely, the Nord, with 155 deaths, or 0·8 per 10,000; the Loire-Inférieure, 49 deaths, or 0·7 per 10,000; the Oise, 30 deaths, or 0·7 per 10,000; the Calvados, 20 deaths, or 0·4 per 10,000; the Somme, 23 deaths, or 0·4 per 10,000; the Seine-et-Marne, 14 deaths, or 0·3 per 10,000; and the Eure-et-Loire, 11 deaths, or 0·3 per 10,000 inhabitants.

Taking the total number of deaths occurring in these fifteen departments, it is found that they amounted, when compared with the population, to a general average of 3·4 deaths per 10,000 inhabitants. Then there are the scattered cases, for the most part in the immediate neighbourhood of departments infected. Thus there are in the departments of the Aisne and the Marne 4 and 3 deaths; in the Sarthe, the Finistère and the Vendée, 3, 4 and 5 deaths. Down in the south of France, on each side of the Bouches-du-Rhône, the Gard and the Var have 3 and 5 deaths. Finally, on the German frontier, the

Meuse and the Meurthe et-Moselle have 3 and 5 deaths from cholera.

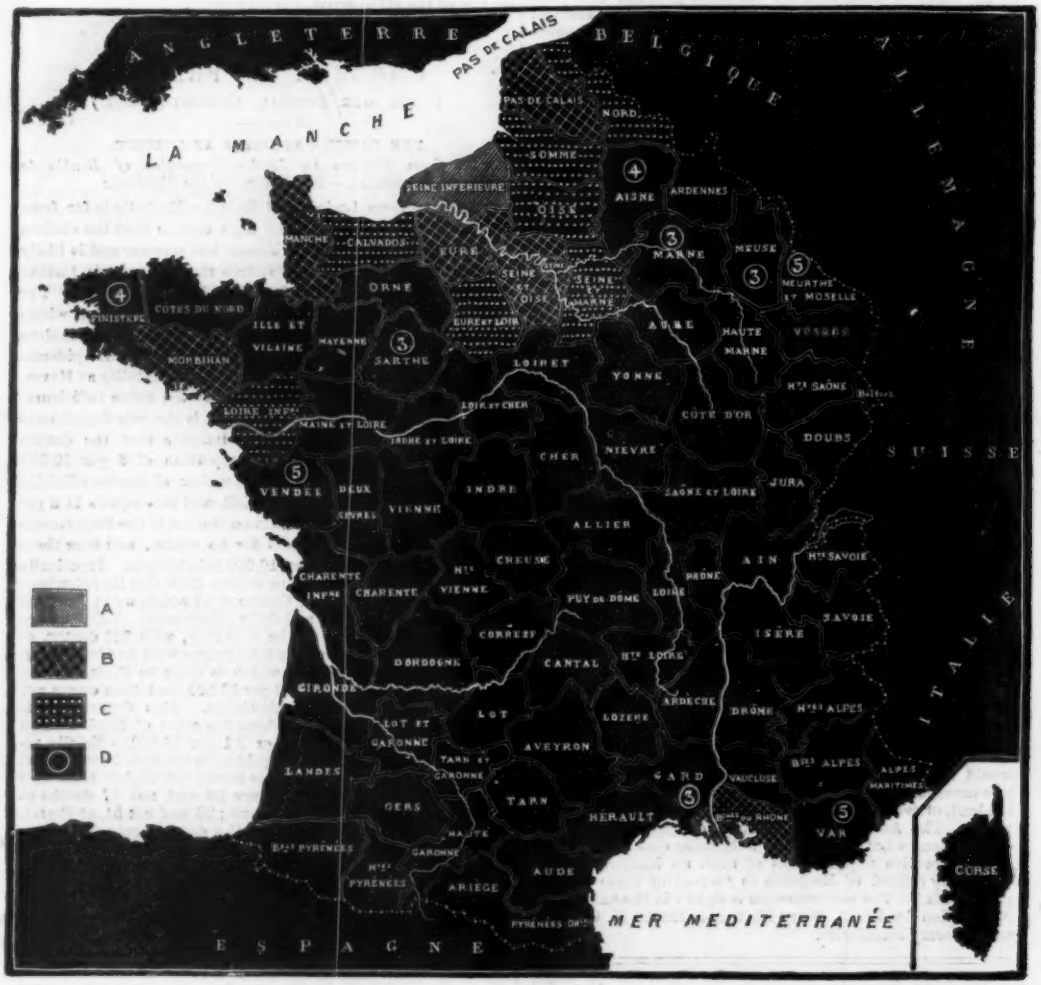
Such was the condition of affairs on Dec. 31st, 1892. It will be seen that, with the exception of Marseilles, the epidemic in the main invaded that portion of France which is the nearest to the coasts of England. Even Marseilles, in one sense, is not an exception; for, though the Bouches-du-Rhône is one of the departments the furthest away from England, there is constant intercourse between England and the port of Marseilles. For instance, in 1892, 609 British ships, manned by crews numbering in all 23,393 persons, entered the port of Marseilles, and these figures are below the average.

So as to better appreciate how close the cholera has been to England, another map is appended of the coast immediately facing our shores. All villages and small towns where deaths from cholera occurred are not named, but circles indicate their position, and within the circles the numbers of deaths which occurred are given.

The map shows that cholera was not only more prevalent on that portion of the coast which is nearest to England, but also in those ports that have the most trade with England—namely, Dunkirk, 35 deaths; Calais, 24 and not 17 deaths, as marked in the map; Boulogne and Portel, 31 and 76 deaths (not 27 and 51 as put down in the map); Dieppe, 82 deaths, and Havre 495. To this list might be added the Department of the Seine, that is to say, Paris and neighbourhood, with its 1878 deaths, and the adjoining Department of the Seine-et-Oise, with 212 deaths. Taking all these figures into consideration, and looking at the shading of the map, it seems as if a kind of storm-cloud, or a vast invading host had gathered together on the opposite shores of the Channel to threaten the south coast of England. Nor is the danger over yet. After a few weeks of quietude cholera has broken out afresh and with force, considering that it is still early in the year.

At present, it is true, cholera prevails in a district that has but little intercourse with England. It has recommenced where it left off last year, but at the most southerly point, and seems at present to be travelling still further south-

CHOLERA IN FRANCE DURING THE YEAR 1892.



A, Departments where the deaths from cholera exceeded the proportion of 6 per 10,000 inhabitants. B, Departments where the deaths from cholera ranged from 1 to 6 per 10,000 inhabitants. C, Departments where the deaths from cholera were less than 1 per 10,000 inhabitants. D, Departments where only isolated cases occurred. The number of deaths is recorded in the circles.

wards. On March 10th of this year cholera reappeared at Lorient, which used to be the port of the French East India Company and is now an important naval military station with a large arsenal. The population is estimated at 42,116. Already, last year, there had been an epidemic at Lorient and in the surrounding small towns and villages. Altogether there were 281 deaths. Of this number 106 took place in the town of Lorient. This gives a proportion of 25 deaths for every 10,000 inhabitants. Lorient is in the Department of the Morbihan, and altogether eighteen communes reported deaths from cholera. These were distributed as follows:—Lorient, 106; Bely, 1; Pontivy, 1; Olermeur, 12; Loc Miquelic, 13; Canden, 19; Band, 2; Riantec, 28; Vannes, 2; Guemene, 2; Merville, 11; Port Louis, 13; Hennebout, 9; Gaves, 7; Grou, 1; Furnizac, 2; Languidic, 1; Blais, 1. Such is the cholera death roll for 1892 at Lorient and in the immediate neighbourhood. Now the disease has reappeared and is progressing with increasing force. The following is the official, but as yet unpublished, return of cases and of deaths occurring between March 10th and April 9th:—

Commune.	Cases.	Deaths.
Lorient	85	32
Riantec	57	31
Port-Louis	15	8
Palais	10	8
Gavres	45	10
Ploulimec	33	11
Merlevenez	2	2
Ploëmeur	19	5
Guiberon	16	9
Roserières-en-Palais	1	1
Crach	13	2
Canden	6	2
Sené	16	6
Groix	1	1
Auray	57	15
Hennebout	5	5
Etel	9	1
Plougoumelen	10	6
Belty	33	5
Branderion	1	1

CHOLERA ON THE BRITISH CHANNEL DURING THE YEAR 1892.

The above are official figures, which in some instances are below the actual number of deaths ascertained by inquiries made on the spot. Thus there were twenty-four deaths at Calais, thirty-one at Boulogne, and seventy-six at Portel.

Commune.	Cases.	Deaths.
Plumeres	18	8
St. Philibert	9	2
La Trinité-sur-Mer	1	1
Brech	3	1
Vannes	6	2
Melrand...	4	2
Keroignac	1	1
Total	476	178

Altogether cholera has invaded twenty-five communes in the neighbourhood of Lorient and Vannes. The number of deaths is not yet as great as in 1892, but the epidemic has increased so rapidly within the last few days that the gravest apprehensions may be entertained. Thus from March 10th to March 31st—that is to say, during twenty-one days—there were 288 cases and 112 deaths; but from April 1st to April 9th—that is to say, during nine days—there have been 188 cases and 66 deaths. Further, the following table will show that the most recent period is the worst:—

Cases and Deaths from Cholera at Lorient and the neighbouring Twenty-five Communes.

	Cases.	Deaths.
March 10th to 31st	288	112
April 1st	26	6
,, 2nd	14	7
,, 3rd	11	6
,, 4th	9	3
,, 5th	23	7
,, 6th	14	9
,, 7th	23	8
,, 8th	18	12
,, 9th	50	8
Total... ...	476	178

The above figures are very significant, especially the return of fifty cases for April 9th. This suggests that the disease is spreading rapidly, and the fact that it has again made its appearance at Vannes is alarming. This town, though it has a population of only somewhat above 20,000 inhabitants, is the capital of the Department of the Morbihan. Here are the Courts of Justice and the Prefecture, and there is also a small port. If there are not many people living at Vannes, a great deal of official business has to be transacted there, and this attracts many persons from the department. Vannes is on the main line from Lorient to the important ports of Nantes and St. Nazaire. Further south from La Rochelle cases of cholera have been reported, but these are not yet confirmed. Nevertheless, the cases about which there is no doubt show that at present cholera is travelling southwards from Lorient. What will occur when the weather becomes warmer is a matter of the greatest possible moment. Will cholera continue its southerly course, visiting only districts as yet exempt, or will it also revive in those northern departments where there is a constant traffic with England which have already suffered? Should the latter be spared there would be ground for believing that the susceptibility to cholera is dying out. The number of victims throughout France last year was very small considering the large area over which the disease was scattered. That cholera should have revived this year in the Department of the Morbihan is but natural, as this is notoriously one of the most benighted and insanitary departments of France; but will it also return to those parts where greater cleanliness prevails?

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6231 births and 4130 deaths were registered during the week ending April 8th. The annual rate of mortality in these towns, which had been 20·9 and 21·2 per 1000 in the preceding two weeks, declined again last week to 20·9. In London the rate was 20·4 per 1000, whilst it averaged 21·2 in the thirty-two provincial towns. The lowest rates in these towns were 10·2 in Derby, 11·5 in Croydon, 13·0 in Blackburn, 15·5 in Hull and 16·0 in Huddersfield; the highest rates were 24·2 in Leeds, 25·2 in Manchester and in Oldham, 26·3 in Liverpool, 27·3 in Burnley, and 29·8 in Bolton and in Preston. The 4130 deaths included 408 which were referred to the principal zymotic diseases, against 424 and 433 in the preceding two weeks; of these, 115 resulted from measles, 115 from whooping-cough, 63 from diphtheria, 40 from scarlet fever, 34 from diarrhœa, 25 from "fever" (principally enteric) and 16 from small-pox. No fatal case of any of these diseases occurred last week in Wolverhampton or in Huddersfield; in the other towns they caused the lowest death-rates in Blackburn, Sunderland, Derby and Birkenhead, and the highest rates in Manchester, Leeds, Cardiff, Bolton and Preston. The greatest mortality from measles occurred in Plymouth, Bolton, Manchester, Preston, Leeds, Gateshead and Newcastle-upon-Tyne; and from whooping-cough in Brighton, Birmingham, Norwich, Leicester and Oldham. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 63 deaths from diphtheria included 38 in London, 6 in Cardiff, 6 in Manchester and 3 in Croydon. Five fatal cases of small-pox were registered in Salford, 2 in London, 2 in Leeds and 1 each in Birmingham, Bolton, Oldham, Manchester, Halifax, Sheffield and Sunderland; 297 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 24 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2024, against 1965, 1971 and 2030 on the preceding three Saturdays; 194 new cases were admitted during the week, against 225 and 235 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had increased from 338 to 421 in the preceding three weeks, declined again to 400 last week, but were 37 below the corrected average. The causes of 56, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Oldham, Sunderland, Newcastle-upon-Tyne and in four other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Swansea, Salford and Halifax.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 23·4 and 22·7 per 1000 in the preceding two weeks, rose again to 23·1 during the week ending April 8th, and exceeded by 2·2 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 16·5 in Aberdeen and 18·5 in Edinburgh to 27·4 in Perth and 29·3 in Paisley. The 651 deaths in these towns included 41 which were referred to measles, 17 to whooping-cough, 10 to diarrhœa, 7 to scarlet fever, 5 to diphtheria, 3 to "fever" and 1 to small-pox. In all, 84 deaths resulted from these principal zymotic diseases, against 104 and 100 in the preceding two weeks. These 84 deaths were equal to an annual rate of 3·0 per 1000, which exceeded by 0·9 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had increased from 45 to 60 in the preceding three weeks, declined again to 41 last week, of which 27 occurred in Glasgow and 7 in Paisley. The 17 deaths referred to whooping-cough corresponded with the number in the preceding week and included 13 in Glasgow. The fatal cases of scarlet fever, which had been 10 and 5 in the previous two weeks, rose again to 7 last week, all of which occurred in Glasgow. The deaths from diphtheria, which had been 8 and 4 in the preceding two weeks, were 5 last week, and included 4 in Glasgow. The 3 deaths referred to "fever" showed a decline from those recorded in recent weeks, and included 2 in Aberdeen. The fatal case of small-pox was registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 151 and 138 in the preceding two weeks, were 139 last week, and were 21 below the number in the corresponding week of last year. The causes of 50, or nearly 8 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased from 25·2 to 27·9 per 1000 in the preceding four weeks, further rose to 28·8 during the week ending April 8th. During the

thirteen weeks of last quarter the death-rate in the city averaged 28·1 per 1000, against 22·0 in London and 20·6 in Edinburgh. The 193 deaths in Dublin during the week under notice showed an increase of 6 upon the number in the previous week, and included 12 which were referred to the principal zymotic diseases, against 12 and 14 in the preceding two weeks; of these, 6 resulted from whooping-cough, 2 from diphtheria, 2 from "fever," 2 from diarrhœa and not one either from small-pox, measles or scarlet fever. These 12 deaths were equal to an annual rate of 1·8 per 1000, the zymotic death-rate during the same period being 1·9 in London and 1·2 in Edinburgh. The fatal cases of whooping-cough, which had declined from 4 to 2 in the preceding three weeks, rose again to 6 last week. The deaths referred to different forms of "fever," which had been 8 and 7 in the preceding two weeks, further declined to 2 last week. The 2 fatal cases of diphtheria exceeded the number recorded in any recent week. The 193 deaths registered in Dublin last week included 24 of infants under one year of age and 53 of persons aged upwards of sixty years; the deaths of infants showed a further decline from those recorded in recent weeks, while those of elderly persons showed a further increase. Six inquest cases and 3 deaths from violence were registered; and 81, or more than 40 per cent., of the deaths occurred in public institutions. The causes of 10, or more than 5 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING MARCH, 1893.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during March in each of the forty-one sanitary districts of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 8·6 per 1000 of the population, estimated at 4,305,551 persons in the middle of this year. Owing principally to the decreasing prevalence of scarlet fever in London this rate showed a further decline from those recorded in the preceding five months, which had fallen from 17·9 to 9·7 per 1000. Amongst the various sanitary districts the rates last month were considerably below the average in Kensington, Hammersmith, St. George Hanover-square, St. James Westminster, St. Martin-in-the-Fields, Holborn, and Rotherhithe; while they showed the largest excess in St. Pancras, Clerkenwell, Whitechapel, Limehouse, Mile End Old Town, Poplar, and St. Olave Southwark. The prevalence of small-pox in London showed a further marked increase during March, an average of 61 cases weekly being notified, against 20 and 40 in the preceding two months; of the 303 cases notified during last month, 35 belonged to Greenwich, 29 to Islington, 29 to Poplar, 25 to Whitechapel, 21 to Marylebone, 17 to Woolwich, 13 to Westminster, 12 to St. Giles, and 10 to St. Pancras sanitary districts. The Metropolitan Asylum Hospitals contained 248 small-pox patients at the end of March, against 12, 39, 80, and 152 at the end of the preceding four months; the weekly admissions averaged 55, against 10, 20, and 38 in the preceding three months. The prevalence of scarlet fever in London showed a further decline from that recorded in recent months; this disease was proportionally most prevalent in Fulham, St. Pancras, Islington, Whitechapel, Limehouse, Mile End Old Town, Poplar, Battersea and Plumstead sanitary districts. The Metropolitan Asylum Hospitals contained 1938 scarlet fever patients at the end of March, against numbers declining from 3843 to 2204 at the end of the preceding five months; the weekly admissions averaged 196, against 363, 254, 223, and 214 in the preceding four months. Diphtheria also showed decreased prevalence during the month under notice; amongst the various sanitary districts this disease showed the highest proportional prevalence in Hampstead, St. Pancras, St. Martin-in-the-Fields, Clerkenwell, Bethnal Green, Mile End Old Town, Poplar, Newington, and Lewisham. There were 283 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of March, against 268 and 283 at the end of the preceding two months; the weekly admissions averaged 50, against 53, 49, and 58 in the preceding three months. The prevalence of enteric fever showed a marked further decline during March; this disease was proportionally most prevalent in Whitechapel, St. George Southwark, Newington, Rotherhithe, and Battersea sanitary districts. The Metropolitan Asylum Hospitals contained only 37 enteric fever patients at the end of March, against numbers declining from 124 to 63 at the end of the preceding five months; the weekly admissions averaged 7, against 12 and 10 in the previous two months. Erysipelas showed the highest proportional prevalence during the month under notice in St. Pancras, Clerkenwell, St. Luke, Whitechapel, St. Olave Southwark, and Lewisham sanitary districts. Three cases of puerperal fever were notified during March in Kensington, 3 in St. Pancras, and 3 in Whitechapel sanitary districts.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various metropolitan sanitary districts, the deaths occurring in the institutions of London having been distributed amongst the various sanitary districts in which the patients had previously resided. The distribution of these deaths, and especially of those resulting from zymotic diseases, affords the most trustworthy data that can be secured upon which to calculate reliable rates of mortality. During the five weeks ending Saturday, April 1st, the deaths of 8183 persons belonging to London were registered, equal to an annual rate of 19·8 per 1000, against 26·7 and 19·2 in the preceding two months. The lowest death-rates during March in the various sanitary districts were 12·9 in Lewisham (excluding Penge), 14·7 in Wandsworth, 15·0 in Hampstead, 15·4 in St. Olave Southwark, 15·5 in Plumstead, 16·6 in Paddington, and 16·8 in St. George Hanover-square; in the other sanitary districts the rates ranged upwards to 24·2 in Clerkenwell, 24·4 in Bethnal Green, 25·1 in St. Luke, 26·5 in Limehouse, 26·8 in St. George Southwark, 27·9 in Strand, 28·1 in Holborn, and 30·2 in St. George-in-the-East. During the five weeks of March 829 deaths were referred to the principal zymotic diseases in London; of these, 246 resulted from whooping-cough, 222 from diphtheria, 111 from scarlet fever, 104 from measles, 83 from diarrhœa, 42 from different forms of "fever" (including 41 from enteric fever and 1 from an ill-defined form of continued fever) and 21 from small-pox. These 829 deaths were equal to an annual rate of 2·0 per 1000, against 2·0, 2·1, and 1·9 in the preceding three months. Amongst the various sanitary districts the lowest zymotic death-rates were recorded in Paddington, Kensington, Westminster, St. Giles, City of London, St. Olave Southwark, and Woolwich; and the highest rates in Fulham, Bethnal Green, St. George-in-the-East, Limehouse, Poplar, St. Saviour Southwark, St. George Southwark, and Battersea. Twenty-one fatal cases of small-pox were registered in London during the month under notice, the corrected average number in the corresponding periods of the preceding ten years being 17; of these 21 deaths, 4 belonged to Greenwich, 2 to St. Giles, 2 to Shoreditch, and 2 to Camberwell sanitary districts. The 104 deaths referred to measles were considerably less than half the average; amongst the various sanitary districts this disease showed the highest proportional fatality in Bethnal Green, Greenwich, and Plumstead. The 111 fatal cases of scarlet fever were 32 above the corrected average; this disease was proportionally most fatal in Bethnal Green, Limehouse, Poplar, and Newington sanitary districts. The 222 deaths referred to diphtheria exceeded by as many as 124 the corrected average; amongst the various sanitary districts this disease showed the highest proportional fatality in Hampstead, St. Pancras, Clerkenwell, Shoreditch, Bethnal Green, St. George-in-the-East, Limehouse, Mile End Old Town, Poplar, and St. Saviour Southwark. The 246 fatal cases of whooping-cough were 126 below the corrected average; this disease was proportionally most fatal in Fulham, Chelsea, Hackney, Limehouse, St. Saviour Southwark, and St. George Southwark sanitary districts. The 42 deaths referred to different forms of "fever" were 16 below the corrected average; there was no marked excess of "fever" mortality during last month in any of the metropolitan sanitary districts. The 83 fatal cases of diarrhœa slightly exceeded the average. In conclusion, it may be stated that the mortality in London during March from these principal zymotic diseases was more than 12 per cent. below the average.

Infant mortality in London during the month under notice, measured by the proportion of deaths under one year of age to registered births, was equal to 131 per 1000, and was below the average; the lowest rates of infant mortality were recorded in Paddington, City of London, St. Olave Southwark, Rotherhithe, Woolwich, and Plumstead; the highest rates in Fulham, St. James Westminster, Strand, Holborn, Clerkenwell, and Bermondsey sanitary districts.

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON.—MARCH, 1893.

(Specially compiled for THE LANCET.)

Sanitary areas.	Estimated population in the middle of 1893.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,206,551	103	1710	815	2	168	10	30	523	—	3566	8·6	21	104	111	222	246	—	41	1	83	829	2·0	8183	19·8	131
West Districts.																										
Paddington	120,277	—	31	18	—	4	—	3	16	—	72	6·2	—	—	1	4	2	—	—	—	—	7	0·6	192	16·6	57
Kensington	167,038	1	43	18	—	4	—	1	17	—	84	5·2	1	1	4	8	3	—	—	—	—	17	1·1	276	17·2	139
Hammersmith	103,674	3	18	13	—	5	—	1	6	—	46	4·6	1	—	2	3	9	—	2	—	4	21	2·1	184	18·5	143
Fulham	103,075	7	54	11	1	3	—	1	11	—	88	8·9	—	3	4	2	16	—	2	—	3	30	3·0	207	20·9	172
Chelsea	98,114	1	32	14	—	5	—	—	13	—	65	6·9	—	—	1	3	12	—	—	—	—	16	1·7	170	18·1	96
St. George Hanover-square	75,825	—	19	5	—	2	—	—	4	—	40	5·5	—	1	1	1	3	—	1	—	2	9	1·2	122	16·8	149
Westminster	54,761	13	22	6	—	1	—	—	7	—	49	9·3	—	1	2	—	1	—	—	—	—	4	0·8	153	23·4	130
St. James Westminster	23,173	2	5	3	—	2	—	—	1	—	13	5·7	—	—	—	1	1	—	1	1	1	5	2·2	43	18·8	178
North Districts.																										
Marylebone	139,546	21	39	26	—	3	—	2	19	—	110	8·2	—	1	6	7	9	—	1	—	3	27	2·0	314	23·5	150
Hampstead	73,949	—	21	21	—	2	—	—	7	—	61	8·6	—	—	1	9	—	—	—	—	2	12	1·7	106	15·0	108
St. Pancras	234,125	10	126	62	—	5	—	3	42	—	248	11·0	—	3	4	14	14	—	1	—	5	41	1·8	492	21·9	147
Islington	328,068	19	164	52	1	15	1	2	32	—	296	9·4	—	10	8	10	10	—	3	—	3	44	1·4	559	17·7	136
Hackney	240,177	7	110	56	—	11	—	—	24	—	208	9·0	—	10	3	13	25	—	2	—	2	55	2·4	406	17·6	112
Central Districts.																										
St. Giles	38,511	12	8	3	—	—	—	1	6	—	30	8·1	2	—	—	1	—	—	—	—	—	3	0·8	80	21·7	137
St. Martin-in-the-Fields	13,911	1	1	4	—	—	—	—	1	—	7	5·2	—	—	—	2	—	—	—	—	—	2	1·5	32	24·0	143
Strand	23,508	3	7	1	—	—	—	—	3	—	14	6·2	—	—	—	1	—	—	—	—	1	3	1·3	63	27·9	211
Holborn	32,646	1	6	3	—	2	—	—	5	—	17	5·4	1	—	—	2	2	—	2	—	—	7	2·2	88	28·1	212
Clerkenwell	65,163	5	23	26	—	4	—	—	12	—	70	11·2	—	—	—	4	5	—	—	—	—	9	1·4	151	24·2	183
St. Luke	41,916	—	14	9	—	1	—	—	14	—	38	9·5	1	1	2	2	3	—	2	—	—	11	2·8	100	25·1	120
City of London	35,383	4	12	3	—	—	—	—	1	—	10	5·9	—	—	—	1	—	—	—	—	—	1	0·3	76	22·4	79
East Districts.																										
Shoreditch	123,425	3	50	26	—	3	—	—	10	—	92	7·8	2	5	4	10	5	—	—	—	1	57	2·3	274	23·2	102
Bethnal Green	129,655	2	59	46	—	1	—	—	19	—	127	10·2	—	11	6	14	8	—	—	—	2	41	3·3	309	24·4	149
Whitechapel	75,163	25	15	8	—	5	—	3	21	—	97	13·5	1	3	2	4	3	—	1	—	6	20	2·8	169	23·4	148
St. George-in-the-East	45,182	9	21	11	—	1	—	—	5	—	47	10·8	1	—	—	8	2	—	—	—	2	13	3·0	131	30·2	166
Limehouse	57,386	9	65	14	—	2	—	—	5	—	95	17·3	1	—	5	4	13	—	1	—	4	28	5·1	146	26·5	100
Mile End Old Town	108,006	9	79	36	—	5	—	—	8	—	137	13·2	—	—	1	7	6	—	2	—	2	18	1·7	206	19·9	96
Poplar	168,876	29	84	75	—	7	2	2	27	—	226	14·0	—	2	11	19	9	—	2	—	5	48	3·0	334	20·6	114
South Districts.																										
St. Saviour Southwark	26,828	—	8	10	—	—	—	—	2	—	20	7·8	—	1	2	3	7	—	1	—	—	13	5·1	57	22·1	162
St. George Southwark	59,952	4	17	10	—	4	—	1	5	—	41	7·1	—	1	—	3	7	—	1	—	5	17	3·0	154	26·8	124
Newington	117,450	3	41	33	—	8	—	—	16	—	101	9·0	—	—	6	4	3	—	3	—	2	18	1·6	234	20·8	147
St. Olave Southwark	12,861	5	6	3	—	2	—	—	5	—	21	17·0	1	—	—	—	—	—	—	—	—	1	0·8	19	15·4	49
Bermondsey	84,244	6	10	11	—	1	—	1	10	—	59	7·3	1	3	1	7	—	—	1	—	4	17	2·1	182	22·5	115
Rotherhithe	39,764	2	6	2	—	4	—	—	3	—	17	4·5	—	1	1	1	3	—	1	—	2	9	2·4	77	20·2	91
Lambeth	280,567	3	70	44	—	14	5	1	36	—	173	6·4	1	5	5	13	18	—	2	—	5	49	1·8	530	19·7	110
Battersea	160,633	4	85	34	—	12	—	1	18	—	154	10·0	—	9	6	8	19	—	3	—	1	46	3·0	277	18·0	145
Wandsworth	169,379	—	62	13	—	8	—	2	18	—	103	6·3	—	2	4	4	4	—	2	—	4	10	1·2	229	14·7	107
Camberwell	246,857	8	76	23	—	14	—	1	22	—	144	6·1	2	4	9	6	11	—	3	—	6	41	1·7	427	18·0	145
Greenwich	173,349	35	65	19	—	1	—	2	27	—	149	9·0	4	13	5	8	11	—	1	—	5	47	2·8	323	19·4	129
Lewisham (excluding Penge)	76,593	7	18	20	—	3	—	1	15	—	59	8·0	1	3	1	3	—	—	—	—	1	9	1·2	96	12·9	110
Woolwich	41,794	17	17	3	—	1	—	—	2	—	40	10·0	—	—	1	2	—	—	—	—	—	3	0·7	82	20·5	91
Plumstead	94,192	3	45	20	—	2	2	1	12	—	85	9·4	—	10	1	6	2	—	1	—	—	20	2·2	140	15·5	88
Port of London	—	—	1	—	—	1	—	—	1	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 67 cases of membranous croup.

† Including deaths from membranous croup.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

BRIGADE-SURGEON-LIEUTENANT-COLONEL CAREW has been posted to Colchester. Deputy Surgeon-General Giraud, retired, has assumed Medical Charge at Sheffield. The following officers have arrived from India in the *Serapis* on completion of a tour of service: Surgeon-Major Bourke and Surgeon-Captain Kearney. Surgeon-Captain H. H. Browne has been posted to the North British district and Surgeon-Captain Baylor to Cork.

ARMY MEDICAL STAFF.

Surgeon-Colonel H. F. Paterson, M.D., Army Medical Staff, obtains his promotion on the approaching retirement of Surgeon-Major-General J. B. C. Beade.

INDIA AND THE INDIAN MEDICAL SERVICE.

The *London Gazette* of April 7th announces the following promotions:—*Bengal:* To be Surgeon-Lieutenant-Colonel: Surgeon-Major Kenneth Mackenzie Downie, M.D. (dated Dec. 29th, 1892).—*Madras:* To be Surgeon-Colonel: Brigade-Surgeon-Lieutenant-Colonel Samuel Bradshaw Hunt (dated March 1st, 1893).—*Bombay:* To be Surgeon-Major-General: Surgeon-Colonel Peter Stephenson Turnbull, M.D. (dated Feb. 26th, 1893). To be Brigade-Surgeon-Lieutenant-Colonel: Surgeon-Lieutenant-Colonel George William Robertson Hay, M.D. (Dec. 3rd, 1892). The following retirements are also gazetted:—*Bengal:* Surgeon-Lieutenant-Colonel Charles Cameron (dated Sept. 21st, 1892).—*Madras:* Surgeon-Lieutenant-Colonel Lionel Beech (dated March 1st, 1893).—*Bombay:* Surgeon-Major-General John Pinkerton, M.D. (dated Feb. 26th, 1893).

The following appointments are announced:—Surgeon-Major G. M. J. Giles, M.B., F.R.C.S., Indian Medical Service (Bengal), Medical Officer of the Lawrence Military Asylum at Sanawar, is appointed to be Residency Surgeon in the Persian Gulf, sub. *pro tem.*, vice Surgeon-Captain A. L. Duke, until further orders. Surgeon-Major H. P. Yeld (Bengal Establishment), Deputy Assay Master, Bombay, is appointed to officiate as Assay Master, Calcutta. Surgeon-Major F. F. MacCartie, M.B. (Bombay Establishment), to officiate as Deputy Assay Master, Bombay, vice Surgeon-Major H. P. Yeld. Surgeon-Colonel T. Maunsell, Army Medical Staff, having been appointed to the Administrative Medical Staff of the Bengal Command, to be Principal Medical Officer, Rawalpindi District.

The redistribution of the commands in Burmah is at present under the consideration of the Government of India, and in the event of its being sanctioned it is reported that Brigade-Surgeon-Lieutenant-Colonel Blenkinsop will probably be appointed Principal Medical Officer of the Chin Hills Command. Surgeon-Colonel R. P. Ferguson, Principal Medical Officer at Allahabad, proceeds to Umballa to relieve Surgeon-Colonel A. C. Gaye, who is transferred to Bangalore. Surgeon-Colonel W. Martin assumes Medical Charge of Allahabad.

NAVAL MEDICAL SERVICE.

Fleet Surgeon Mark Anthony Harte has been placed on the Retired List, with permission to assume the rank of Deputy-Inspector-General of Hospitals and Fleets. The following appointments are announced:—Surgeons: William Eames to the *Cruiser* (dated April 8th, 1893); Edgar R. Dimsey to the *Duke of Wellington* (dated April 11th, 1893).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Murdo Mackenzie, the Highland Volunteer Artillery, Southern Division Royal Artillery, to be Surgeon-Captain (dated April 12th, 1893).

YEOMANRY CAVALRY.

Berks: John Henry Waters, M.D., to be Surgeon-Lieutenant (dated April 8th, 1893).

VOLUNTEER CORPS.

Artillery: 1st Ayrshire and Galloway: William Alexander Algie, Gent., to be Surgeon-Lieutenant (dated April 8th, 1893).—*Rifle:* 5th (Isle of Wight, Princess Beatrice's) Volunteer Battalion, the Hampshire Regiment: Surgeon-Captain E. A. Rich resigns his commission (dated April 8th, 1893).—1st Volunteer Battalion, the Northamptonshire Regiment: Surgeon-Lieutenant R. Greene to be Surgeon-Captain (dated April 8th, 1893).—1st Volunteer Battalion, the Prince of Wales (North Staffordshire) Regiment: John Russell, M.B., to be Surgeon-Lieutenant (dated April 8th, 1893).—5th (Perthshire Highland) Volunteer Battalion, the Black Watch (Royal Highlanders): Surgeon-Captain J. Mackay, M.B., to be Surgeon-Major (dated April 12th, 1893).—1st Volunteer Battalion, the Royal North Lancashire Regiment: Surgeon-Lieutenant J. W. Rigby to be Surgeon-Captain (dated April 12th, 1893).—5th (West) Middlesex: William Griffiths, M.D., to be Surgeon-Lieutenant (dated April 12th, 1893).

THE NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on April 11th, T. Russel Pickthorn, Esq., Inspector-General, in the chair, the sum of £60 was distributed amongst the several applicants.

EXAMINERS FOR THE ARMY MEDICAL SERVICE.

The following gentlemen have been appointed by the Secretary of State for War as examiners of candidates seeking admission to the Army Medical Service: in Surgery, Sir William Mac Cormac (St. Thomas's Hospital); in Anatomy, Mr. G. H. Makins (St. Thomas's Hospital); in Medicine, Dr. Allchin (Westminster Hospital); and in Biology, Dr. Shore (St. Bartholomew's Hospital), all of whom are also examiners for the Conjoint Board of England. In making this selection examiners from other divisions of the kingdom have been passed over, a circumstance which not unnaturally has given rise to some dissatisfaction. Indeed, Mr. Kenny last week asked a question on this point in the House of Commons. We are certainly of opinion that it would have been better to give the Scotch and Irish examining bodies each a representative on such a board. It will also be noted in the list that two of the examiners are members of the staff of St. Thomas's Hospital. On this point, too, it would have been better if as many hospitals as possible had been represented. With the exception of Dr. Allchin, the examiners are the same gentlemen as those who examine for admission into the Royal Navy. Taking all these circumstances into consideration, it is not too much to assume that the appointments will not afford unalloyed satisfaction to our professional brethren. The examiners hold office for a period of five years.

READJUSTMENT OF INDIAN RATES OF PAY.

Although it may be quite true that the Royal Medical Warrant of 1879 was accepted by the Government of India on the understanding on its part that it should not be applied financially to India, the circumstances have altogether altered since that date, and it cannot be justly urged as a sufficient reason for not readjusting the rates of pay to medical officers serving in that country at the present time. When the station hospital system was introduced into India a large annual saving was effected, amounting to ten lakhs of rupees. The responsibilities and labours of medical officers were vastly augmented, but their emoluments were decreased at the same time. It was urged and understood by those who were instrumental in drawing up the scheme of reorganisation that charge pay should be given by way of compensation. The Indian Government adopted the scheme only so far as secured them a large financial saving, and disregarded that portion of it favourable to the medical officers. The great fall which has since taken place in the value of the rupee has, moreover, made it more than ever necessary to readjust the rate of pay of medical officers in accordance with existing warrants. We see no reason for altering the opinion we have frequently expressed that the provisions of medical warrants should be fully applied to India, and consider that medical officers serving in that country have a just and equitable claim to their advantages—financial and otherwise.

LORD ROBERTS AND SANITARY PROGRESS IN INDIA.

Lord Roberts, in the speeches he made on his departure from India, adverted amongst other things to the sanitary progress and the salutary social changes that had taken place in that country within his own experience. And there is no doubt that, as far as the British soldier more especially is concerned, these have been of a notable character. The hill station system has greatly developed, by which a large proportion of the European army can enjoy a relatively cool and healthy climate during the hot weather, instead of being subjected to all the discomfort and risk to health attending service in the hot, enervating stations and cantonments of the plains. The soldier is better lodged and fed, more suitably clothed and better cared for generally than formerly; military institutions of the nature of soldiers' clubs have sprung up in various directions and greater temperance prevails in the army; female nurses have been introduced into the country; the rate of mortality has

diminished, and the losses from cholera amongst European troops are not so great as formerly. The health of the soldier, according to Lord Roberts, is much more carefully looked after than it used to be and he is more considerately treated in every way, with the result that the trouble that has been taken has been amply repaid by his improved health and discipline and the marked diminution in drunkenness and crime. In the fifty-seven years preceding the Mutiny the annual rate of mortality amongst European troops serving in India was 69 per 1000, whereas since 1882 the annual death-rate has not exceeded 15 per 1000, except in 1889, when it rose to 16·6 per 1000. Our troops in India, taken as a whole, are admittedly a fine and efficient body of men. The disease to which they and their officers are more especially liable is typhoid fever, and we have unfortunately no reason to congratulate ourselves in that respect. Lord Roberts, in speaking of the improvement in health that had taken place from the adoption of sanitary and common sense measures, instanced Fort William, in which he stated that the mortality had been at one time at the rate of over 100 per 1000.

THE INDIAN BUDGET.

The financial statement for 1893–94 will no doubt be carefully scanned by medical officers interested in Indian finance for the purpose of forecasting the action of the Government in regard to the rupee question. Section IV. of the Budget deals at some length with the present position and future policy of the Indian Government. The prospects of the future are stated to be disheartening, because, although the ordinary Indian revenue grows rapidly, fluctuations in exchange set all calculations at defiance. The heavy fall in the rate of exchange has most seriously affected the position of Government servants not domiciled in India. Their case cannot be put on one side much longer, and as matters now stand no remedy is declared to be possible that does not involve further increase of Government expenditure. The possibility of the United States stopping their purchases of silver has also to be taken into account, as its effect on the rate of exchange must be very serious. Reference is made in the financial statement to the committee of experts in London, under the presidency of the Lord Chancellor, who are considering the currency question as it affects India. The decision of the home authorities in the matter cannot be delayed much longer, but the Indian Government are constrained to await its arrival in the meantime.

Correspondence.

"Audi alteram partem."

"THE GRESHAM LECTURES."

To the Editors of THE LANCET.

SIRS,—I highly appreciate your sympathetic recognition of the difficulties that beset those whose duty calls them to expound medical questions to the laity. As you truly observe, it is not easy to find suitable topics year after year. There are probably few to whom this difficulty has appealed so constantly as to the Gresham Professor of Medicine. I fear that during the present course I have run unwittingly into danger, and that your criticism is a just one, under the stimulus of which I shall strive in future to confine my prelections to subjects not involving the popular treatment of disease, for I should profoundly regret were I under a mistaken idea of my duty to adopt a course which did not meet the general approval of my professional brethren. During the present course on the Organs of Special Sense, upon which I have been engaged for three terms, I have found it convenient to describe the general and comparative anatomy of each organ, the minute structure, recent advances in physiological, pathological and therapeutical investigations. The syllabus of each subdivision may, when taken alone, suggest the idea of superficiality, and it would manifestly be altogether out of place to give details of medical or surgical treatment; but I hold that some intimation of the direction in which knowledge is advancing is of service. Those who come to Gresham College with a morbid craving for nostrums and the hope of gaining gratuitous advice go away less disposed to treat themselves, because they are taught to realise that ample instruction and prolonged experience can alone qualify for the diagnosis and treatment of disease.

I am, Sirs, yours faithfully,

E. SYMES THOMPSON,
Gresham Professor of Medicine.

Cavendish-square, W.,
April 11th, 1893.

"MEDICAL AID ASSOCIATIONS AND THE GENERAL MEDICAL COUNCIL."

To the Editors of THE LANCET.

SIRS,—IN THE LANCET of the 8th inst. you have been pleased to make some annotations concerning medical aid associations, and as you somewhat misrepresent me in your remarks I feel sure it will not be trespassing too much on your courtesy and space to request you to kindly publish this letter.

First of all, I take it that all friendly societies' medical associations (and I hope these institutions will not be confounded with medical aid societies) are conducted on similar lines. The Banbury F.S.M.A., with some slight modifications, is very well managed. In my reply to the memo. of Dr. Glover I gave very full answers and expressed my honest opinions about this society and certain modifications I considered to be desirable in its management—and, for that matter, in the management of all such societies. But to proceed to your remarks. I stated at the annual dinner that a widespread state of things existed in the profession throughout the country in this, that many men run branch practices and run union and club and other appointments by means of unqualified assistants, to the detriment of those holding diplomas, and worse than that, that in several instances blank death certificates bearing the signature of the principal are left for the assistant to fill up at his sweet will and pleasure. I know this to be a fact, and I also know that these things are of far more frequent occurrence than either you, Sirs, or the Medical Council dream of. Indeed, in this very town, not such a very long time ago, there was some stir concerning such a death certificate. But what say you to this? About a year ago (in another part of England) an unqualified assistant did tracheotomy and the child died some twenty-four hours afterwards. At the inquest it was proved that the operation was quite unnecessary and he was let off with a caution. One would have thought this warning sufficient; but within a month the same person tried to "tap" the bladder; he made three "shots" at it with the trocar and cannula in various parts of the abdomen, but never hit the bladder at all. At the subsequent inquest it was found he had "tapped" the intestines and thus hastened death, and, moreover, it was also found post mortem that there was no need for tapping the bladder whatever. The death certificate book was produced, and it was found that some four or five certificates (counterfoils not filled up) had been torn out quite recently. The man was severely reprimanded, as also the principal, and the coroner said the registrar-in-chief ought to be communicated with; whether he was or not the "principal" still practises as before. It was not, therefore, because I was not aware of the Council having taken action in such matters that I mentioned these occurrences in my observations at the dinner, but rather to point out that many, very many, cases occur in which no action at all is taken, as in the case above mentioned. Sirs, personally I hope that the unqualified assistant may soon be a thing of the past, or, at all events, that his duties may be limited to those of dispensing, dressing a simple cut, bandaging, or in other words the duties of a "dresser," and then only under proper supervision.

At the conclusion of my speech referred to by you I said: "There is a great and momentous crisis at hand for Friendly Societies' Medical Associations; the General Medical Council are supreme in their decision, and your society (the Banbury F.S.M.A.), like others, must stand or fall by that decision. It would be most discourteous for me to criticise the action of the Council, but this I firmly believe, that the gentlemen who compose the Special Commission will honourably discharge their duties impartially and without bias, and any association which has a *bonâ-fide raison d'être* will, I think, receive its just and legitimate permit."

As the matter is still *sub judice*, I will only say that I, with many others, will be glad to know what the Medical Council decides on, one way or the other, and if it is decreed to be wrong for medical men to hold these appointments I will at once resign; but if, on the other hand, these associations are to be continued, I trust that the Special Com-

missioners will draw up a practicable and workable code of rules and regulations for the guidance of the management committees. Many men, like myself, await the Council's decision, which has been sought for indirectly for a long while past; and personally I have sufficient faith in that supreme Council to know that, whatever its decision may be, it will be for the best interests, not only of the profession itself, but also of friendly societies generally and the public at large. Thanking you beforehand for inserting this letter,

I remain, Sirs, yours faithfully,

J. J. A. RAYE, L.R.C.P. Irel. &c.

Banbury, Oxon., April 10th, 1893.

"THE INFERIOR LARYNGEAL NERVE."

To the Editors of THE LANCET.

SIRS,—Dr. Arthur T. Davies, in THE LANCET of April 1st, proposes to answer three objections I made to the theory of his late father regarding the inferior laryngeal nerve and to show that they are of little real value. In order to make the situation clear let me take up the points in order.

1. I said the assumption that respiration is a result of the combined action of the diaphragm and the muscles that open and close the rima glottidis was not proved, and I stated a fact that had to be considered in any demonstration of it. Dr. Arthur Davies is logician enough to know that any destructive criticism of my objection does not establish the original assumption; and so he goes on to construct an argument for the truth of the assumption. Now, whilst my objection was perhaps somewhat too general and implied more than it expressed, I believe that it is quite properly urged and that it has considerable weight. As to Dr. Arthur Davies's constructive argument, I am not prepared to grant that it is conclusive—in fact, some of the statements in it, especially the one about the inactive phrenic nerve and the relaxed diaphragm, appear to require considerable modification. If Dr. Arthur Davies or anyone else would undertake to construct a comprehensive argument proving that the recurrent laryngeals are necessary to ordinary breathing it would tend greatly to simplify the question at issue.

2. I fear Dr. Arthur Davies misunderstands what I said about the difference in length of the two inferior laryngeal nerves. What my argument aimed at showing was this—that, presuming that the length of nerve theory is true, the lateral halves of the larynx are innervated at different moments by centrifugal impulses, and this at once raises a serious difficulty about the synchronous action of the two halves. This was all I meant to say, and I believe the difficulty I pointed out is a real one.

3. As to the value of the quotation from Hilton. The context of this in Hilton's book would seem to imply that there is not such a thing as a really non-recurrent inferior laryngeal nerve, and Dr. Arthur Davies would seem to take this implication as an answer (and as a contradiction) to my statement that there are instances where the inferior laryngeal nerve goes straight to the larynx. To this I can only say that if my interpretation of Hilton be correct, then it has been my lot, and the lot of many others, to see what Hilton did not see—viz., the inferior laryngeal nerve going in a direct course to the larynx without winding round the right subclavian artery where that vessel arose from the arch of the aorta. In these circumstances Dr. Arthur Davies will hardly repeat the statement that the quotation from Hilton is the best answer to my objection.

To discuss many of the points in Dr. Arthur Davies's letter would raise irrelevant issues, and this is my apology for ending here. I think I have said enough to show that my criticisms have as much weight or as little as I intended them to have, and that they bear out my general conclusion that the late Dr. Herbert Davies's theory of nerve lengths involves as many difficulties as, if not more than, does the theory that the relative lengths of the nerves in question have nothing to do with the matter.

I am, Sirs, yours faithfully,

W. RAMSAY SMITH.

Inverleith-gardens, Edinburgh, April 6th, 1893.

EPITHELIOMA OF BOTH EXTERNAL EARS.

To the Editors of THE LANCET.

SIRS,—The interesting case recorded by Mr. Crawford in THE LANCET of March 11th induces me to send you a short account of a similar case now under my care.

A man aged seventy-six years, afflicted with chronic rheumatism, consulted me about nine months ago for a slight but persistent ulceration of both external ears, which commenced about two years previously as a "small blister." The right ear was chiefly affected, but the vitality of both organs was considerably impaired, they being of a dusky bluish tinge, and their sensibility was lessened. The ulceration then appeared of a simple nature, somewhat resembling chronic eczema, but the evident defective circulation of the parts suggested difficulties in the way of curing it. However, under treatment there was decided but slow improvement for a time, but it never completely healed. A few months since the ulceration of one ear—the right—began slowly to extend and soon took on the typical appearance of a squamous epithelioma. There is now considerable destruction of tissue, the pinna being perforated, with profuse foul-smelling, bloody discharge. The ulcer has the usual hard everted edges and in some parts the growth measures quite an inch in thickness. The left ear remains in much the same condition as at first. When the disease began to extend I at once proposed to remove the organ, but the patient refuses to submit to any operative interference. My friend Dr. Burton-Fanning of Norwich was with me one day when I saw the case and agreed with me as to the nature of it, at the same time remarking on its rarity. I may add as a fact of some additional interest that about nine years ago the patient had a "cancer about the size of a nut" removed from his lip.

I am, Sirs, yours truly,

Sherringham. W. J. ERNELY SUMPTER.

"TREATMENT OF CERTAIN CASES OF SHOCK BY SALINE INJECTIONS."

To the Editors of THE LANCET.

SIRS,—I should be obliged if you would allow me to correct an error in your report, which has made me guilty of misrepresenting the opinions of Sir G. Johnson, whom I regard as a high authority. In the discussion at the last meeting of the Clinical Society on Mr. Mayo Robson's paper on the Treatment of Certain Cases of Shock by Saline Injections I remarked that the cases he narrated did not appear to be examples of pure shock or syncope from failure of the heart's action, but rather of obstruction (pulmonary) to the right ventricle, leading to engorgement of the large abdominal veins &c.—i.e., a form of asphyxia. This view seemed to me borne out in the cases related—without much detail, however—by the embarrassed action of the heart and the rapid pulse in the early stages. I stated that such a condition resembled somewhat closely that of the collapse stage of cholera and might be explained on the principles by which Sir G. Johnson interprets (with much truth, I believe) the phenomena of that grave condition. Mr. Robson did not agree that cholera collapse was a parallel instance and said that in the latter the blood is found thick. But was it not so in his two cases also? For, when the vein was opened, no blood escaped, and probably there would have been some difficulty in getting it to flow, but much advantage when it did flow. Anyone who has performed venesection for sudden asphyxia will know how rapidly the blood may become thick in such circumstances. The post-mortem appearances of the blood and of the lungs in fatal cases of this class should be recorded. Mr. Robson also said that he believed the direct cause of the collapse to be paralytic distension of the abdominal vessels (? veins); but is such a state of things likely or possible? If it is so, perhaps his best course would be to empty them by firmly applying an abdominal binder; but if the cases are really ones, not of shock proper but of asphyxia, the question arises, which I did not raise at the meeting, What is the cause of the implied asphyxia? Not being a surgeon, I have but little experience of shock following operations; but it is to be remembered that the dangerous symptoms mentioned by Mr. Robson did not develop till a few hours after the operation and could, therefore, hardly be due to the operation itself; and if they were not due directly to the operation I am inclined to assign the blame to the anæsthetic. Ether was employed in all the cases, I believe. Ether is a strong pulmonary irritant, and its asphyxiating tendencies are always more or less evident when it is inhaled. What more likely than that in these cases its effects should be more severe and prolonged than usual and, by interfering with the pulmonary circulation, should bring about this series of effects, culminating in collapse? And, if so, what better remedy could be employed

than venesection, which would not only relieve the engorged venous system of thick, stagnant blood, but also relax any spasm of the pulmonary arterioles? Venesection has proved successful in cholera collapse as well as in many sorts of asphyxia. The injection of salt water might do good by diluting and reddening the blood, just as it does temporarily in cholera (though it was not recommended by Sir G. Johnson), but surely it is not sound practice to overfill the already distended veins. Saline injections are right and proper in syncope and collapse from hæmorrhage, but not in such cases as that; and if ether is at the bottom of the mischief it follows that it is not, after all, such a perfectly safe anæsthetic as is commonly assumed, and that it has its dangers as well as chloroform.

I am, Sirs, yours truly,

F. LUCAS BENHAM, M.D.

Elizabeth-street, S.W., March 30th, 1893.

VENESECTION.

To the Editors of THE LANCET.

SIRS,—Although retired from the profession for many years in favour of art and letters, I was brought up in the old school of sixty years ago and saw something of the practice of bleeding in inflammatory attacks on the vital organs. I have seen the beneficial effects of judicious depletion and sometimes the injurious effects of the treatment where it was adopted by mistake. I am quite certain that many lives have been saved by bleeding at the right moment in the right cases. The usual limit of our bleeding was from 12 oz. to 16 oz., measured in a graduated pewter basin—a porringer-shaped vessel marked with lines and figures on the inside surface. I think, as far as my memory serves me, in urgent cases 30 oz. were taken at one time, and frequently small repeated bleedings in the upright position were practised until the acute symptoms subsided. But the point I wish to have some evidence upon is whether such a quantity as 120 oz. was ever taken from a patient at one time. I find it stated by the author of a very pretentious and big work, two large octavo volumes, in which the medical profession is abused and ridiculed as all humbug—viz., "Gossip of the Century," by the author of "Flemish Interiors" (not human interiors), who is, I believe, a lady, that the Duke of Kent, father of the Queen, was bled to 120 oz., and, as implied, bled to death, after having caught cold at Sidmouth from wet feet. I do not believe in this as a fact or that any physician would have done such a thing even at that time. I should like, at any rate, to know from some qualified authority whether such a phlebotomy as this ever was practised. I would simply add that 120 oz. are about eight solid pounds of blood.

I am, Sirs, yours truly,

GEORGE REDFORD, F.R.C.S.

Cricklewood, N.W., April 3rd, 1893.

THE WATER-SUPPLY OF CHICAGO.

To the Editors of THE LANCET.

SIRS,—Your able and exhaustive Report on the Water Supply of Chicago will be read with the deepest interest by all who think of attending the World's Fair this year, and I am sure you will be glad to learn that the well-known Jarvis-Conklin Company of Kansas City has just provided an abundant supply of absolutely pure drinking water, not only for Jackson Park during the period of the Exhibition, but for the City of Chicago and its neighbourhood permanently. This water, which comes from the Waukesha Spring in Wisconsin, 104 miles north west of Chicago, is correctly described by your Commissioner as being "perfectly satisfactory as regards organic purity;" it is brought in by means of a steel pipe with a non-soluble lining which protects it from any possible contamination, and, after being reduced to a temperature of 40° F. by an artificial cooling process without the admixture of ice, is dispensed at over two hundred fountains and booths in the grounds and buildings. I am sure that, when your Commissioner again visits Chicago, he will find that all the conditions which he lays down as necessary for health and comfort have been completely fulfilled, and that both in quantity and quality the Waukesha drinking water supplied to the World's Fair at Jackson Park and to the City of Chicago now leaves nothing to be desired.

I am, Sirs, yours sincerely,

Rutland-gate, S.W., April 10th, 1893. EYRE M. SHAW.

"HOW UNION APPOINTMENTS ARE MADE."

To the Editors of THE LANCET.

SIRS,—I am rather amused at the letter of "M.R.C.S." in your issue of the 25th inst. on this matter. I read the letter of "M.R.C.P." on the same subject, and I think with him that it is a farce for guardians to advertise an appointment when they have already made up their minds whom they will appoint. I cannot help thinking, however, that "M.R.C.S." had two objects in view when writing his letter. One was, perhaps, on the above subject, and one might naturally ask, Has "M.R.C.S." ever resided out of a village? He appears to look upon his practice and his appointments as what may, perhaps, just now be appropriately termed "vested interests" and which, therefore, ought not to be taken away either from him or his purchaser in succession. I submit that the guardians are perfectly justified in selecting the best man qualified to have the appointment, be he an old or be he a new resident. Why should the poor be neglected? Are they not just as much entitled to good treatment as we are? My experience is that guardians generally do their duty, and I am of opinion that public appointments ought in our profession as in all others to be given *to the best men*. The other object of the letter of "M.R.C.S." is evidently to point out how "mean" and "unprofessional" it is for any man to oppose another who has purchased a village practice. What, then, is to become of all the young medical men if this contention is to be accepted as law? Is not a man free to settle where he pleases if he thinks he can live? I should like to know: Does "M.R.C.S." write feelingly on the subject? Has he suffered through opposition? It would appear so from the tone of his letter. Let us suppose, for the sake of argument, that a man buys a village practice and lives there unopposed and subsequently neglects his patients, who cannot conveniently be attended by another man, and he treats them with no respect and charges exorbitantly. I ask him, Would it still be mean and unprofessional for a man to settle down in opposition to him? I say emphatically that it would not. It would teach the old practitioner a valuable lesson, and it would be quite a "godsend" to the residents, for I know how unopposed men are liable to neglect their patients. It may be disappointing for a village doctor to suddenly wake up and find that he has an able opponent; but if he has done his duty to his patients and is well up in his work they will have learnt to admire him and will not leave him. Competition, if fair, is always healthy; but I have always found that if a village doctor is well liked or respected he will not be readily opposed, and, as I have said before, if he is not liked or is not respected then it is good for the people that he should be opposed.

I am, Sirs, yours truly,

March 28th, 1893. M.B., C.M. ED.

"LEICESTER AND ITS QUARANTINE SYSTEM."

To the Editors of THE LANCET.

SIRS,—THE LANCET of March 25th contains an article by Mr. Bremner adversely criticising what is known far and wide as the "Leicester method" of dealing with small-pox. Apparently, the idea of writing this critique was suggested to my colleague on the Leicester Town Council by an article of mine which was published in the *Vaccination Inquirer* of Nov. 1st, 1892. As my writings are largely quoted for purposes of criticism, I trust you will allow my reply to appear in your columns, especially as you conferred a similar favour some years ago in publishing a letter of mine in reply to the late Dr. Tomkins, our then medical officer of health. A misconception has arisen as to the date when my article was written. Although it did not appear until November, it was written for publication in September, and the two months' delay was owing to circumstances which would take too long to explain here, but which, fortunately, I have documentary evidence to sustain. Had Mr. Bremner known this, there are some parts of his article which probably would not have been written, and indeed I doubt very much whether the article would have appeared at all. This explanation is a sufficient reply, therefore, to those parts of his article which appear to reflect upon my veracity. I should be equally justified in impugning Mr. Bremner's veracity when he says, in THE LANCET of March 25th, "there have been 132 cases of small-pox in Leicester during the present outbreak," whilst THE LANCET

of April 1st says there have been 140, and it is now seen in a return just issued there are 145. It would be childish on my part to attempt to make capital out of this variation of numbers, or to hold either THE LANCET or Mr. Bremner responsible for not writing upon events which transpired subsequently. I have carefully read the whole of Mr. Bremner's article appearing in your columns with the hope that some useful and practical hints for future guidance might be abstracted therefrom. It is deeply disappointing in this respect, for the general tone of the language used is deprecatory of a system which has worked remarkably well. The impression left on the mind is that the "Leicester system" is useless and that its virtues have been imposed upon a too credulous world. Now at last it is reserved for Mr. Bremner to expose its fallacies, and we need expect to hear little more of it beyond execration and contempt. But, like a distinguished and ancient prophet, that which he intends to curse Mr. Bremner ends in blessing altogether. He says: "I may here express my ardent appreciation of the principle of isolation and quarantine, with the distinct proviso that this principle to be effectual must be carried out on rational and scientific lines." Of course. Yet one would expect that if this principle were not carried out in Leicester on "rational and scientific" lines it is the bounden duty of those eminent gentlemen who possess this knowledge to give the benefit of it to the sanitary committee of which they are members. Instead of this we are told that "when we have supplied means of isolation and quarantine in practice and not in theory, *when we have adopted vaccination and revaccination as our first line of defence*, then and then only shall we be able to claim that the 'Leicester system' is a method worthy of imitation and not a fantastic phrase which means nothing." The words I have italicised contain the gist of the whole article. We trusted to the "unscientific" processes of vaccination and revaccination in 1871–73 and paid the penalty of our folly in being well-nigh "decimated" by small-pox, but since the advent of the "Leicester system" we do not expect to be thus stranded again, believing that the "rational" means will save us where the "scientific," so called, have failed. Now what was the *origin of the "Leicester method"?* Contrary to the assumption of Mr. Bremner, the term "Leicester method" did not originate with "misguided enthusiasts," nor did the first "pæans of praise" or "loud-voiced laudation" respecting the "marvellous success" of this "much-vaunted system" "proceed out of the mouths of the anti-vaccination party." What the anti-vaccination party have done is to discriminate between the "scientific" claims of a "grotesque empiricism" which has always proved to be a failure and a "rational" system which has invariably proved itself successful. Mr. Bremner tells us that the "advantages of isolation have been known from an early period of the world's history," and were "appreciated even in the year 1490 B.C., this period being antecedent to the anti-vaccination movement." I agree with this, because Jenner's peculiar prescription for small-pox only dates from the latter part of last century and was opposed from the beginning, and therefore both the vaccination and anti-vaccination movements are equally removed from the remote date referred to—namely, 1490 B.C. But this ancient knowledge, if not lost, had certainly fallen into desuetude, and has only comparatively recently been revived. The "Leicester system" was introduced by Dr. Johnston (one of our former medical officers of health) in conjunction with Mr. Braley, our present chief sanitary inspector, in 1887 and 1888, and from that time the "Leicester system" began to be quoted by medical authors. Therefore it is seen that the "Leicester method" and its name were introduced by medical confrères of Mr. Bremner, and it is they whom he is treating with so much contempt in his criticism. It follows, therefore, that the vials of wrath which have been poured out by medical writers fall naturally, not upon us, but upon their medical colleagues. Whilst we have advocated in season and out of season, with "tireless reiteration," the advantages of sanitation, we ourselves lay no claim beyond this advocacy to the authorship of the "Leicester system." Nevertheless medical writers have never been weary of twitting us with our inconsistency in the *stringency of its enforcement*. We have been told that, whilst we strongly oppose compulsory vaccination, we have no compunction in regard to personal liberty in the vigorous enforcement of our system of quarantine. THE LANCET of June 5th, 1886, in an article written by a Special Commissioner sent down to Leicester to investigate on the spot, says: "The radical community of Leicester has no compunctions in restricting personal liberty except in the matter of vaccination." This we have often denied, and we therefore welcome the additional testimony of Mr. Bremner that isolation regulations "are carried out in many towns more rigorously" than in Leicester. This goes to confirm what we have always contended—that sooner or later our "system" would be adopted, and that then those who had opposed us would claim not only to carry it out but to do so even more stringently than we. It also shows that the rigour of its enforcement in Leicester has not interfered with individual liberty. Ever since the "Leicester system" has proved so successful we have been compelled to listen to the story, dinned into our ears with "tireless reiteration," that the *Leicester Fever Hospital* is unsuitable and little less than a disgrace to the authorities. We have never contended, nor have we heard others contend, that our hospital was an up-to-date institution. Let me say that I entirely agree with Mr. Bremner as to the desirability of an improved hospital. But this should not prevent us applauding the good work done in the past by the much-despised existing buildings. They were erected under panic in 1871-72 to meet the emergency then arising, at a time when Leicester was more fully vaccinated than at any other period of its history, and when thousands of small-pox cases were occurring, followed by hundreds of deaths, and compared with which the present outbreak is little more than a drop in the ocean. We were indeed at that time "living in a fool's paradise." Panic never conduces to completeness or efficiency; but such as it is, I honour the medical men who were the authors and carried out the erection of our hospital, which, with the aid of the much-despised "Leicester system," has enabled us in the past to checkmate the numerous outbreaks of small-pox since 1873. This is what vaccination failed to do for us in 1871-72. All attacks upon the hospital are, like the assaults upon the "Leicester system" directed against medical workers of the past whose shoes' latchets, the carpers of to-day would have been unworthy to unloose. Why do not these medical critics of their past colleagues suggest some more practical scheme than the one at present in vogue? Why, when improvement schemes are matured, do they not support them in the Town Council? It is notorious in Leicester, that they have done neither the one nor the other. Instead of this their efforts have been directed to thwarting the "Leicester system" by making it difficult and expensive. Now in the light of our experience of the past twenty years I ask, *Is the "Leicester system" difficult and expensive?* I emphatically answer, No. Mr. Bremner might usefully have quoted a little more from my article upon this point. In the course of my inquiries for the preparation of evidence for the Royal Commission on Vaccination I requested the borough accountant to supply me from the official accounts with the whole amount which had been paid either for bedding and clothing destroyed or as compensation for loss of time. After an exhausting search in the archives of the borough, all that could be found was the not very startling sum of £11 5s. Of this only a few shillings were paid as compensation for loss of time, and the remaining balance for destroyed bedding and clothing. Now, Mr. Bremner says, "When the 'little bill' for compensation for loss of time and for carrying out the other details of the 'Leicester system' is produced" it will "afford an instructive object-lesson to all students of sanitation." Whatever the "little bill" may prove to be, a considerable part of it will be due to the policy pursued on the Sanitary Committee by Mr. Bremner and his friends. The old successful policy of Dr. Johnston and Dr. Tomkins has partly been abandoned. These gentlemen were at least loyal to the system and to the committee, and a small outlay was the result. If the increased expenditure is large enough to be an "object-lesson" the reason is not far to seek. Compensation has been too freely voted by the medical men and their friends, and where this is done you cannot blame either "Oliver Twist" or anyone else for asking for more if they are likely to get it. I for one have protested, but without effect, against this newly improvised system of granting quasi-relief, which is the proper duty of the guardians and not of the sanitary committee. Even when the bill of costs for the present outbreak is finally made out and loaded with every conceivable charge in the effort to pile up an enormous and prohibitive cost it will, I doubt not, favourably compare with the "little bill" of £32,257 4s. 7d. which it cost well-vaccinated and "protected" Sheffield during its small-pox epidemic of 1887-88. To obtain a fair comparison between Leicester and other towns suffering from small-pox, one must take the expenditure of each upon vaccination and the hospital com-

bined and then compare the result achieved. Leicester need not fear any such comparison being made with any well-vaccinated town in the Kingdom. We may therefore ask with that complacent demeanour which appears so unnecessarily to irritate our opponents, *Has the "Leicester system" ever been tried and found wanting?* Our answer is, Never. Mr. Bremner has only pointed out what we all knew before, that our hospital was not all we could wish. But this is a mere truism. Besides, a deficient hospital has nothing to do with the "Leicester system." If we can achieve so much with defective appliances, what may we expect to achieve with a perfect hospital? The "Leicester method" has been the sport of members of the dominant majority of our sanitary committee. So far, even during the present outbreak, it has succeeded too well for the prophets of evil, who have told us for years that small-pox would spread like wildfire if once it gained a footing in our midst. We were to be decimated, which means that over 18,000 people were to die. What is the result? There have been less than 150 cases and only ten deaths. Who dare gainsay the fact that the "Leicester system" has been the all-potent factor in limiting the outbreak to these moderate dimensions? Neither vaccination nor revaccination have had part or lot in the matter. There have been more cases amongst the vaccinated and revaccinated than amongst the unvaccinated. Moreover a vaccinated person originated the outbreak. The principal part of the revaccinations which have been performed has taken place amongst the population furthest from the hospital and least exposed to contagion, and whose social circumstances would enable them to more easily resist the attack. Such is the confidence exhibited in the Jennerian process that very few of the members of the sanitary committee who have been vaccinated have put the efficacy of the operation to the test by visiting the hospital. The very worst that can be said against us is that notwithstanding our enormous unvaccinated child-population we have had comparatively but a few attacks and only eight deaths. When one remembers the large number of mistakes in diagnosis that have characterised the present outbreak, as, for example, the case of small-pox in a crowded house, under medical treatment for twenty days, and infecting four others before the true disease was discovered, our surprise, and indeed wonder, must be that there are so few attacks and so few deaths. Especially is this the case when one remembers, too, that half the fatality is due to the outbreak at the hospital, which also occurred through a mistake in diagnosis. Mr. Bremner might tell us whether these are part of the "scientific" attainments he advocates. To form a true opinion of the "Leicester system" and of what it is capable, one has only to compare former with present times. In 1871–73 upwards of 95 per cent. of vaccination failed to protect us and the epidemic amongst an "insusceptible" population resulted in 360 deaths. At that time the "Leicester system" was not in vogue. Like Micawber, our sanitary officials waited for cases to "turn up," and as a consequence the disease spread fatally. Now, without "protection," only having 2 per cent. of vaccination performed, but with the "Leicester system" in operation, although perhaps imperfectly, even in the very midst of a "susceptible" population the outbreak is checked and the disease practically stamped out. What "loud-voiced laudations" one would hear if the result were the other way. If we had folded our arms in despair as they did in 1872 and in Sheffield in 1887–88, what sane person would affirm that we should not have suffered more severely? Dr. Tomkins, speaking of Sheffield on page 15 of his annual report on the health of Leicester for 1887, says: "Had any such efficient system been in force at Sheffield, it need not have been to-day suffering from a wide-spread epidemic, which has got beyond all control." The quarantining at the houses of the people has been even more successful than that at the hospital, the attacks in the former being only 3·9 per cent. and those at the latter 6·7 per cent. All we require (until our new hospital, projected for some years, is erected) is an additional building to accommodate families from infected houses for a day or two whilst their homes are disinfected. But when this tentative proposal came before the Council the medical men, instead of being present to support it, were conspicuous by their absence. *Where, then, has the "Leicester system" failed?* Instead of failing it has once more triumphed under a severe ordeal and under adverse conditions. The sanitary committee may have suffered from divided counsels, the "system" has been a constant theme of derision; there have been many mistakes in diagnosis, perhaps some errors in administration, and inadequate means for quarantine; also there is a defective and almost worn-out hospital: yet, in spite of these obstacles, the "Leicester system" has succeeded where vaccination and revaccination have failed. *Compare Leicester with other towns*, with Sheffield, Warrington, Manchester and others, where the Vaccination Acts have been in full operation, and Leicester will emerge favourably from the ordeal. Instead of carping at the "Leicester system" let Mr. Bremner give us the benefit of some *practical suggestions* which will have the effect of lessening our mortality. We shall be prepared to go with him quite as far as he will care to go in the path of enlightened sanitation on truly "rational and scientific" lines, and these have been our principal bulwark in the past, and will be in the future, against all inroads of zymotic and epidemic disease.

I am, Sirs, yours truly,

Leicester, April 10th, 1893. J. T. BIGGS.

*** Although the columns of THE LANCET are of necessity restricted to communications from members of our profession, we publish Mr. Biggs' letter in spite of its inordinate length, that our readers may judge for themselves of the worth of his arguments as a reply to Mr. Bremner's criticism. We would point out that the plan of "quarantining at the houses of the people" is *not* the system which was introduced into Leicester by Dr. Johnston. It is, moreover, a plan which can never be as effectively controlled as the alternative method. Mr. Biggs has dwelt on the number of vaccinated persons who have been attacked by small-pox, but he carefully abstains from a reference to the notorious fact of the greater severity of the attacks amongst the unvaccinated children.—ED. L.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Town Smoke.

AT the annual meeting of the Manchester Society of Chemical Industry, held last week, Dr. Bailey of Owens College read a paper on Town Smoke. In connexion with a committee of the Field Naturalists' Society, Dr. Bailey has for some months past been prosecuting his inquiries into the cause of this nuisance at Manchester. The Society have already published one report by the committee on the subject, and on Thursday evening last Dr. Bailey carried the discussion of smoke prevention a step further. He is decidedly of opinion that the careless or the improper use of the domestic fire-grate is responsible for a large amount of the town-smoke nuisance and that the remedy must be sought in the larger use of gas instead of coal for heating purposes. He thought that it was quite practicable to get rid of a large proportion of the smoke—i.e., the unconsumed carbon which is now suffered to escape into the air. The acids, he said, might be left to take care of themselves, because if there were no smoke there would be no fogs and the noxious matters which accompany fog would no longer give us trouble.

Another Fatal Lamp Explosion.

An inquest was held on Friday last touching the death of a poor widow who lived at Medlock-vale, Clayton. It appears from the depositions that the deceased had retired to rest on the preceding Saturday night without extinguishing her paraffin lamp, which she left on a chair close to the bed. The lamp, which was unprovided with a chimney, appears to have exploded, seriously burning the poor woman, who awoke to find herself enveloped in flames. Her cries attracted the attention of the neighbours, who rendered every assistance and succeeded in extinguishing the flames, but not until the sufferer was terribly burnt. She was removed to the Royal Infirmary, where she died.

Prevalence of Small-pox.

According to the latest accounts, small-pox still continues to spread at Manchester and in its neighbourhood. Thirteen fresh cases were reported last week in the city and a considerable number in the districts immediately contiguous. The disease was also reported to be still prevalent at Oldham and in several other Lancashire towns in frequent communication with Manchester. The medical officer of health still continues to report the occurrence of fresh cases in the

common lodging-houses and amongst the tramp class which forms so large a proportion of our labouring population. The corporation seem to have considerable trouble with patients of the tramp class, who appear to think themselves justified in setting all rules at defiance and in giving as much trouble as possible to the hospital authorities. On Friday last a discharged patient of this class was summoned before the magistrates for misconducting himself whilst suffering from small-pox in Monsall Hospital and for getting over the hospital fence and exposing himself in public whilst in an infective condition. The magistrates took a serious view of the offence and fined the man the maximum penalty of £5, with the alternative of a month's imprisonment. This is the second case of the kind which has been brought before the local bench within a month. The firm attitude adopted by the magistrates will probably prevent a repetition of this dangerous practice.

The Trafford Park Estate.

At the next meeting of the city council the special committee recently appointed for the purpose will present a report in reference to a proposal to acquire the Trafford Park Estate as an additional open space for the recreation of the public. The estate is situated to the south of Manchester and contains about 11,000 acres. The committee were impressed (so runs the report) with the desirability of securing as an open space so large a tract of land in a natural condition and suitable for use as a public park. The circumstance, however, that the estate lies outside the city was, in the judgment of the committee, a serious drawback to its acquisition. Accordingly the committee do not at present see their way to recommend the council to purchase the estate.

The Whitworth Observatory.

Yet another valuable present has been made to the Manchester public by the Whitworth trustees. For some time past the Owens College has felt the need of a well-appointed meteorological observatory for the instruction of its science students. This need has now been supplied through the munificence of the Whitworth trustees, who have defrayed the cost of the very excellent institution which, under the direction of the professor of physics, has been recently erected in the Whitworth Park. The observatory is well situated and is equipped with a very complete set of meteorological instruments. Professor Schuster has evidently taken great pains to ensure that the observatory shall meet all modern requirements, and has provided it not only with the ordinary wet and dry bulb and maximum and minimum and terrestrial thermometers, but also with two slow-acting earth thermometers for ascertaining the temperature at depths of six inches and three feet below the earth's surface. A competent observer has been appointed who will take daily readings, which will doubtless be carefully reduced and criticised under the direction of the professor or his assistants.

April 11th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Tyne Port Sanitary Authority.

THE Tyne port sanitary authority, I am glad to see, have made an *amende honorable* by asking their able medical officer to accept an extra cheque of £50 for trouble and anxiety entailed upon him during the late cholera scare and have also raised his salary to £150 a year, expressing the hope that he would see his way to remain as the medical officer of the authority.

The Proposed Ambulance Review at Newcastle.

The programme for the review is already an ambitious one and will include a supposed colliery explosion and railway collision. A sham fight of volunteers is also projected, the wounded receiving attention and nursing. The members of the South Shields and Sunderland Volunteer Life Brigades are to be asked to give an exhibition of life-saving. The members of the constabulary in Northumberland and Durham will be asked to attend. The Newcastle Fire Brigade will also be present. The review is expected to be the largest ever held in the country.

Small-pox in the North.

A tramp was removed last week from Fusehill Workhouse, Carlisle, to Crozier Lodge Hospital suffering from small-pox. He came from Annan on the previous Sunday. There are still six patients under treatment, and out of twelve cases only one—the first, early in January—has so far proved fatal. A case was discovered also at Carlisle last week in the person of a railway guard who is supposed to have caught the infection at Warrington. Cases are likewise reported from Seabergh and from Durham city. The medical officer for South Shields, as showing how people are exposed to infection, mentions the case of a man who tramped from Durham and Sunderland with the rash full out until he arrived at South Shields and applied at a surgery for relief, being still in ignorance of the nature of the disease. There has been an outbreak at Consett, county Durham, where two cases were discovered in refreshment-rooms and promptly removed to hospital.

Sunderland Eye Infirmary.

The bazaar held at Sunderland last week for the benefit of its Eye Infirmary realised a total of £1500.

Newcastle-on-Tyne, April 11th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

South Dublin Union.

THE election of a medical officer for No. 3 Dispensary took place last week. The candidates numbered twenty, Mr. Henry Grattan Day being successful by a small majority. The emoluments of the post are about £180 a year.

Dinner given by the President of the Academy of Medicine.

Dr. Kidd entertained the Lord Lieutenant to dinner on Monday evening, the 10th inst., in the hall of the College of Surgeons. His Excellency, in responding to the toast of his health, stated, amongst other matters, that he had visited some of the leading Dublin hospitals and had been struck by the excellence of the arrangements, the completeness of the fittings and the admirable nursing arrangements.

Health of Dublin for February.

The general death-rate was nearly 5 per 1000 below the mean rate for February in the previous ten years, and the zymotic death-rate very nearly one-half the usual rate for February. As compared with the previous month there was a slight decline in the mortality ascribed to measles and a large decrease in the number of fatal cases of typhoid fever.

Meath Hospital.

The County Dublin Grand Jury increased their presentment last year to £1000. The trustees and committee of the fund subscribed to erect a memorial to the late Earl of Clonmel have decided to hand the amount of £522 7*s.* 7*d.* over to the committee of the Meath Hospital on conditions that a ward be named "The Clonmel Memorial Ward" and that a bed in the ward for the reception of patients from the county of Kildare should be specially dedicated to the late Earl. This has been agreed to and the fund has been invested. During the year the mortality of the total number of cases treated to a termination was 5·10 per cent. The Convalescent Home at Bray in connexion with the hospital continues to confer great benefit on patients discharged from the hospital.

Ennis District Lunatic Asylum.

According to the twenty-fifth annual report 106 patients were admitted during 1892, a number considerably above the average. For example, during 1889 there were forty-eight admissions, in 1882 sixty-seven, in 1886 eighty-one, and in 1891 ninety. The expenditure was £8382 8*s.* 11*d.*, or an average cost per head of £21 17*s.* 6*d.* Dr. Courtenay, inspector of lunatics, in his recent report calls attention to the necessity for increasing the present accommodation to meet the growing demands for space.

Dundrum Criminal Lunatic Asylum.

An inmate of this asylum, Joseph Doney, who had been admitted about ten years since, cleverly escaped from the institution last week. He resided on the third floor, but he smashed the bars of his cell and descended to the ground by means of his bedclothes formed into a rope. He stole some clothes from a store, and has not yet been recaptured. Doney was in 1882 charged with the murder of his wife and children, and on being found insane was sent to the Dundrum Asylum.

Macroom Union.

Dr. Warren Crooke, medical officer of the Macroom Workhouse, has resigned his appointment owing to ill-health and has applied for the usual superannuation. Notice of motion has been given by one of the guardians that he will next month move that a superannuation allowance commensurate with his long and faithful service be granted to Dr. Crooke.

Dr. M. Darby has been appointed to the Commission of the Peace for the county of Kildare.

April 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Transplantation of Bone in the Radical Cure of Hernia.

AT the French Surgical Congress held last week a paper was read by Dr. Thiriar of Brussels on a new method of rendering the results of operations for the radical cure of hernia more durable. Owing to the yielding of the parietes at the seat of incision relapses are unfortunately not uncommon after this operation. To remedy this inconvenience Dr. Thiriar proceeds as follows: The sac being opened and the stump reduced, he fixes with catgut sutures a plate of decalcified bone between the stump and the abdominal wall, the dimensions of the plate being proportional to that of the orifice to be obturated. In twenty-one cases operated on, a firm cicatrix has been obtained and no relapse of the hernial condition has been noted. Post-mortem examination in one instance showed that the plate becomes absorbed and is replaced by a resisting and hard cicatricial tissue.

Professor Hayem's Treatment of Chlorosis.

M. Hayem, professor of therapeutics at the Paris Faculty, is well known for his researches on the composition of the blood in health and disease. A *résumé* of the treatment prescribed by him to chlorotic patients in his wards at the Hôpital St. Antoine will perhaps prove interesting and instructive to the readers of THE LANCET. It is as follows: "Keep the patient in bed for two or three weeks and subject her to a regimen consonant with the state of the stomach as determined by chemical analysis of the gastric juice. Generally there is hyperpepsia, and this is best combated by a milk and raw meat diet—a tumblerful of skimmed milk every hour and 100 grammes (a little over three ounces) of scraped raw meat at noon and at 5 P.M. At the expiration of a fortnight considerable improvement will be noted. Now, and now only, iron may be exhibited. The best, because the most assimilable, preparation is the protoxalate of iron, of which from ten to twenty centigrammes may be given twice daily at the beginning of a meal. Constipation may be met by enemata or by the administration of mucilaginous seeds, such as psyllium plantago. When the appetite reappears, three meals a day of easily digested food may be given. In a month the patient will have regained colour and strength and she may now be permitted to leave bed, at first for two hours, then for four and six, and finally for the whole day. In five or six weeks cure will be complete." M. Hayem lays great stress on the necessity of first treating the dyspepsia—hyperpepsia or hypopepsia—always present. This preliminary anti-dyspeptic treatment lasts generally for three, four or five weeks and is a most necessary forerunner of the protoxalate of iron *régime*. Should there be hypopepsia, a tablespoonful of a 1 per cent. solution of hydrochloric acid in half a tumblerful of sweetened water after meals should be given concurrently with the protoxalate of iron.

Operative Treatment of Hæmorrhoids.

At the Surgical Congress, M. Quénu described a modification of Whitehead's excellent operation for hæmorrhoids. M. Quénu has employed Whitehead's method on ten occasions and in several he has noticed non-union owing to the suture cutting through the mucous flap. He proposes to make an incision between the mucous membrane and the skin, and then to dissect away the membrane for a certain height. Now, instead of sacrificing a ring of membrane with the hæmorrhoidal tissue as in Whitehead's method, M. Quénu preserves it and simply removes the venous ampullæ on its surface. The mucous membrane is then sutured to the skin, leaving in this way a circle of extra-anal stitches. He claims for his method greater simplicity in execution and the necessity for a less severe regimen after the operation. M. Delorme stated that he had performed Whitehead's operation on eight occasions and he could not speak too highly of it. M. Reclus endorsed M. Delorme's remarks and said that in the numerous cases in which he had operated according to Whitehead's precepts he had never met with the *contretemps* mentioned by M. Quénu.

Congenital Absence of Rectum: Operation.

The above condition has, in nearly all cases, proved fatal. M. Delagénière of Tours (French Surgical Congress), in making a post-mortem examination of six infants who had succumbed to this affection discovered that the terminal intestinal cul-de-sac was generally furnished with a vasculo-cellular pedicle, which rendered the cul-de-sac mobile. This mobility of the cul-de-sac, which is ordinarily situated on the level of the left sacro-iliac articulation, suggested the idea of bringing it down to the level of the normal anus and fixing it there. In one case a perineal incision was made and the movable cul-de-sac fixed to the skin incision. The infant did well until the seventh day, when broncho-pneumonia closed its career. In the case of the other child operated on, the pedicle was absent and traction on the cul-de-sac failed to bring it down. The practical conclusions deduced by M. Delagénière are that the new-born child tolerates easily operations of this kind, even when they are necessarily tedious. It is hoped by this proceeding to save a considerable number of lives, more especially since there is always as a *dernière ressource* the option of creating an artificial anus.

A Venerable Practitioner.

Practitioners of the healing art are, as a rule, a short-lived race. A doctor who has not only attained his hundredth year, but is still practising, is therefore a rarity, and the port of Havre is to be congratulated on the possession of such a remarkable citizen. Dr. de Bossy was born in 1793, just two days before his fellow townsman, Casimir Delavigne, whose centenary has been celebrated with such *éclat* by the worthy Havrais. During the last severe cholera epidemic Dr. de Bossy was an enthusiastic attendant on the sick, a medal being conferred on him for his services. A popular ovation was accorded him on the occasion of the Delavigne centenary proceedings.

April 11th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The International Sanitary Conference.

AS to the labours of the International Sanitary Conference at Dresden hardly anything has transpired. It is understood that it is doing its work in three committees or sections. One of these is presided over by the Dutch delegate Ruysch and is occupied with general questions. The president of the second is Roth, Swiss envoy at Berlin. It has a number of questions before it regarding the passage of persons, goods, letters, &c. from countries where cholera is raging. The topic dealt with by the third section is the somewhat complicated question of the Sulina mouth of the Danube. In general, it is said, the principle that all unnecessary hampering of traffic is to be avoided prevails in the Conference. The scientific delegates, including those of Germany and France, are said to be agreed in the main. It is expected that the Conference will finish its deliberations by the middle of this month.

The Twenty-first Congress of Medical Men.

The delegates of the medical societies united to form the German Medical Union will meet at Breslau in August. The only subject as yet on the programme is the duties of medical men in hospitals. It will be introduced by Professor Kast of Breslau and Dr. Cuyrim of Frankfort-on-the-Main. It was proposed that the question of the admission of women to the study of medicine should also be discussed, but the proposal was declined by the managing committee of the Union.

Miscellaneous Items.

Duke Charles Theodore of Bavaria performed his two-thousandth operation for cataract in his clinic in Munich last Friday. The operation-room had been decorated with flowers and plants by the Sisters of Mercy employed in the establishment. About three years and nine months have elapsed since the duke performed his thousandth operation for cataract.

Professor Leyden celebrated his silver wedding last Sunday,

and due honour was done to the occasion by his numerous friends and admirers.

Professor Landerer of Leipsic has been appointed head of the Karl-Olga Hospital at Stuttgart. He was a pupil of Bruns and Thiersch, whose assistant he was from 1879 till 1883. He has written on the treatment of curvature of the spine by massage, that of local tuberculosis with cinammic acid &c.

The anatomist Dr. Friedrich Maurer has been appointed to an extraordinary professorship in the Medical Faculty of Heidelberg.

The well-known dermatologist, Professor Kölner, has been appointed an honorary member of the Dermatological Society of Vienna.

Professor Dieckerhoff, rector of the Veterinary Academy here, will represent Prussia as Commissioner for Veterinary Matters at the Chicago Exhibition.

Professor Virchow was in the Tyrol two days ago and intended to make an excursion into Lower Austria. He is expected here on the 14th inst.

Professor Albert Eulenburg of Berlin has not removed to Dresden, as was erroneously rumoured.

The German Epidemic Bill has been sent to the Reichstag.

The Surgical Congress will meet here this week.

April 9th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT a quarterly meeting of the Council, held on Thursday, the 13th inst., Mr. Thomas Bryant, President, in the chair, the minutes of the ordinary Council of March 9th were read and confirmed.

The Secretary reported the death on the 15th ult., at the age of sixty-two, of Mr. Septimus William Sibley, past member of the Council of the College, and the following resolution was unanimously passed: "That the Council hereby record their deep regret at the death of their late colleague, Mr. Septimus William Sibley, whose efficient services to the College they so much appreciated and whom they highly esteemed for his many excellent qualities, and express their sincere sympathy with his widow and family in their bereavement."

In pursuance of the report of the Library Committee, the best thanks of the Council were given to Mr. T. M. Stone for the very interesting collection of portraits and autograph letters of members of the profession presented by him to the College. (We refer elsewhere more particularly to this collection.)

The Jacksonian Prize was awarded to Mr. J. Bland Sutton for his work on the subject of Diseases of the Ovaries and Uterine Appendages. The subject for next year will be the Diagnosis and Surgical Treatment of Diseases of the Liver, Gall-bladder and Biliary Ducts.

In accordance with a recommendation from the Committee of Management the following are placed on the list of institutions recognised for instruction in chemistry, including chemical physics, practical chemistry, and elementary biology, viz.: City of London School, Clifton Laboratory, Clifton, Bristol (without biology), Hull Royal Institution (without biology), Technical College, Swansea (without biology), University Extension College, Reading.

The President reported that, in pursuance of the provisions of the Bradshaw bequest, he had chosen Sir W. Mac Cormac as the Bradshaw Lecturer for the ensuing collegiate year, and that the lecture would be delivered at some convenient date in November or December, of which due notice would be given by circular to members of the Council.

The Council elected Mr. S. G. Shattock as the Morton Lecturer on Cancer and Cancerous Diseases for the ensuing collegiate year.

A memorial was read from members of the British Dental Association requesting that the resolution respecting Fellows and Members of the College and trading institutions should be made to apply also to Licentiates in Dental Surgery.

It was unanimously agreed that, in reply to their letter, the members of the Dental Association be informed that the Council are entirely in accord with the views expressed by them, and consider that their resolution relating to trading institutions for the treatment of disease should apply equally to the Licentiates in Dental Surgery of the College as to the Fellows and Members.

Sir William Turner and Dr. Charles Bagge Plowright were elected Fellows of the College under the section of the Charter relating to Members of over twenty years' standing.

Medical News.

EXAMINING BOARD IN ENGLAND OF THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board at a meeting of the examiners on the 5th inst.:—

Anatomy and Physiology.—Thomas Chave, Angelo M. Crabtree, Sidney J. O. Dickins and Archibald R. J. Douglas, St. Bartholomew's Hospital; John L. Sykes, London Hospital; Henry P. Ferraby, Norman H. Pike, and William J. Hancock, Guy's Hospital; Albert E. Walter and Sidney E. Tench, Middlesex Hospital; William A. Hubert, St. George's Hospital; Frederick A. H. Michôd, Walter B. Stevenson, Vincent Burrow and Claude Rundle, St. Mary's Hospital; Frank B. Thornton and John D. E. Williams, St. Thomas's Hospital; Frederick P. Jones, Charing-cross Hospital; Thomas R. H. Bucknall, University College; and Ludwig Freyberger, Vienna University.

Anatomy only.—Cyril S. Murray and William W. Walker, St. Mary's Hospital; Thomas Thomas and Herbert L. Porteous, Middlesex Hospital; Thomas Ayscough Hawkesworth and Thomas E. Rice, King's College; Thomas Compton, St. Bartholomew's Hospital; Hugh R. F. Towne, Westminster Hospital; Gordon Ernest O. Taylor, St. Thomas's Hospital.

Physiology only.—Maurice W. Coleman, St. Bartholomew's Hospital; Harold E. Fryer, St. Mary's Hospital; Thomas G. King, London Hospital; and Harold Chatterton, University College.

Nine candidates were referred in both subjects, four in Anatomy only and nine in Physiology only.

Passed on the 6th inst.:—

Anatomy and Physiology.—Richard H. Ashwin, John C. G. Reed, John B. Parfitt, Gerald Barton-Brown, Gerald B. Webb, John J. Foster, Walter R. Wood, Stanley Whicher and Lewis Worts, Guy's Hospital; Peter K. Byrne and Felix B. Carter, University College; Richard W. Stanistreet, Frederick C. Langford and Walter A. Densham, Charing-cross Hospital; Anthony F. Blake, London Hospital; George F. Reynolds, William H. Roache and Percy W. Brigstocke, St. Bartholomew's Hospital; G. McKenzie McKie and Gilbert H. Lansdown, King's College; and Lewis W. Richards, St. Thomas's Hospital.

Anatomy only.—Josiah C. Powell, St. Bartholomew's Hospital; Frederick H. Gervis and Paul R. Browning, St. Thomas's Hospital, Edmund W. M. Westcott, University College.

Physiology only.—John W. Yorke-Davies and Alfred E. Walker, Charing-cross Hospital.

Nine candidates were referred in both subjects, two in Anatomy only and four in Physiology only.

Passed on the 7th inst.:—

Anatomy and Physiology.—Edward G. D. Drury and Jerome J. Murphy, students, St. Bartholomew's Hospital; Henry N. Goode and Frederick W. Binckes, St. Thomas's Hospital; Colin C. Clarkson and James A. Belcher, University College; Hugh T. S. Bell and John Howell, Guy's Hospital; Hardman A. Good, King's College; Walter Wilkins, Charing-cross Hospital; and Nathaniel B. Harman, Middlesex Hospital.

Anatomy only.—Thomas T. Harratt, Middlesex Hospital; William D. Watson, University College; Robert W. Jameson, St. Bartholomew's Hospital; Harry F. Hyde, Cambridge University and St. Bartholomew's Hospital; Charles F. Le Sage, London Hospital.

Physiology only.—Henry H. P. Johnson, Herbert J. Stevens and Montague M. Lowsley, Charing-cross Hospital; Sydney J. Haylock and Henry A. Hall, St. Mary's Hospital; Finch White, St. Thomas's Hospital; Morris Wilkes, University College; James Robertson and Ellis B. Thomas, Guy's Hospital; William A. Bramsdon and Thomas Martin, St. Bartholomew's Hospital.

Seven candidates were referred in both subjects, six in Anatomy only and ten in Physiology only.

Passed on the 10th inst.:—

Anatomy and Physiology.—William C. P. Winter and William E. Plummer, students, Guy's Hospital; John T. Leon, Maurice F. Squire and George B. Crisp, St. Mary's Hospital; Wilfred W. Giblin and Francis B. Madden, St. Bartholomew's Hospital; Douglas P. Gabell, Charing-cross Hospital; Henry J. Price and John C. Holdick Leicester, University College; Cecil E. Jones, St. Thomas's Hospital; Stanley P. Gleeson, Westminster Hospital; Edwin Maynard, Joseph J. Abearins, Edward C. Davenport and Elgar Down, London Hospital; Samuel A. Ewing, Melbourne University; and Cyril W. Alford, Middlesex Hospital.

Anatomy only.—Charles E. Durrant, St. Thomas's Hospital; Carl A. Ljunggren, St. George's Hospital; Alexander Granville, St. Bartholomew's Hospital; Charles J. Armson, Middlesex Hospital; William R. Penny, Westminster Hospital; and John Winder, St. Mary's Hospital.

Physiology only.—Frederic H. Sturdee, St. Thomas's Hospital; Sidney G. Layman, Guy's Hospital; Henry White, London Hospital; Michael Kemble Tebay, Middlesex Hospital.

Eight candidates were referred in both subjects, four in Anatomy only and six in Physiology only.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed in Part I. of the Primary Examination :—

Chemistry, Materia Medica, Botany and Pharmacy.—E. M. Vernon, Royal Free Hospital; A. M. St. J. Wright, Madras.
Chemistry.—A. M. Browne and E. M. Gough, Royal Free Hospital.
Materia Medica, Botany and Pharmacy.—R. N. de Beauvais, Aberdeen and Mr. Cooke's; A. T. Griffiths; T. H. Guillaume, Charing-cross Hospital; C. W. B. Marsh, Durham; A. J. Pedley and H. Whittaker, Birmingham; T. E. Saxby, Edinburgh.
Pharmacy.—E. M. Guthrie, Royal Free Hospital.

The following candidates have passed in Part II. of the Primary Examination :—

Anatomy and Physiology.—D. B. Beecroft and D. C. Ross, Charing-cross Hospital; G. F. Birdwood, Guy's Hospital; E. C. Bond, M. Harmar and M. Thorne, Royal Free Hospital; P. M. Brittain and H. Clarke, St. Bartholomew's Hospital; J. J. Edwards, E. G. Mayo and H. Roberts, St. Mary's Hospital; W. O. Evans, Glasgow; M. Fenouilhet, Zurich; F. S. Flint, King's College; F. G. Haywood and A. J. Pedley, Birmingham; G. W. B. Marsh, Durham; H. E. Wise, Middlesex Hospital.
Anatomy.—G. W. J. Baker, Birmingham; E. H. Betts and G. E. French, St. Bartholomew's Hospital; C. C. Bullmore, University College; C. A. S. Fitter, E. M. Guthrie and M. Orange, Royal Free Hospital; W. B. Kemp, St. Mary's Hospital; H. C. Lambart, Bristol; J. A. Smith, King's College.
Physiology.—W. Alder, Guy's Hospital; A. H. Bell, Cork and Mr. Cooke's; L. M. Blake, Royal Free Hospital; W. F. Chrispin, Leeds; F. H. Fawcett, London Hospital; H. F. Forty and F. G. Keats, Middlesex Hospital; P. B. Gange, University College; H. A. Hall and H. G. Jones, St. Mary's Hospital; G. P. U. Prior, King's College; C. A. K. Renshaw, Cambridge University and Manchester; A. C. Thornton, St. Thomas's Hospital; J. H. E. Trout, Birmingham; E. D. Warren, University College and Sheffield; T. H. Wilkins, Charing-cross Hospital.
Biology.—E. M. Vernon, Royal Free Hospital.

The diploma of this Society entitles the holder to practise Medicine, Surgery and Midwifery, and enables him to compete for Medical Appointments in the Army, Navy and India Service, also for Poor-Law Appointments.

UNIVERSITY OF CAMBRIDGE.—The following registered practitioners have passed the recent examination in State Medicine and Public Health required by the General Medical Council :—

Launcelot Williams Andrews, Edward Harris Armitage, Donald Harvey Attfield, M.A., Peterhouse; Charles Ernest Baker, Hugh Atwood Beaver, Frank Richardson Bloxall, William Arthur Bond, John Francis Butler-Hogan, James Clarke, Herbert George Graham Cook, Marcus Robert Phipps Dorman, M.A., Clare; Howell Thomas Evans, Thomas Henry Godfrey, John Henderson, John Henry Jenkins, John Lloyd Thomas Jones, William Wellington Lake, George D'Alton Nugent Leake, Thomas Morrison Legge, Charles Petre Lovell, Alexander Stewart Norman, David Valentine O'Connell, Felix Brannagan O'Flaherty, Ransom Pickard, George Rowell, Alexander Silcock, George Jackson Smith, Henry Cleveland Smith, Ernest Hugh Snell, Frederick Wilson Stansfield, Nusservanji Fakirji Surveyor, Alfred Whalley Waller, William Willis and William Henry Winder.

UNIVERSITY OF ST. ANDREWS.—At the close of the winter session, on the 6th inst., at this University, the M.D. degree was conferred on the following gentlemen :—

Evan Alban, M.R.C.S., L.S.A.Lond.; John Blacklock, L.S.A.Lond.; Judah Moses Finzi, M.R.C.S.Eng., L.R.C.P.Lond., L.S.A.Lond.; Henry Sowter Frakes, M.R.C.S., L.R.C.P.Ed.; John William Greenwood, M.R.C.S.Eng., L.S.A.Lond.; Alfred Kershaw, M.R.C.S., L. and L.M.K.Q.C.P.I.; Augustus Cooper Key, M.R.C.P.Ed., L.S.A.Lond.; John Cawful Mackay, L.R.C.P.Ed., L.R.C.S.Ed.; John Crawhall Nichol, L.R.C.P.Ed., L.R.C.S.Ed., L.K.Q.P.I.; Frank John Shersby Smith, M.R.C.S., L.S.A.Lond.

PRESENTATION.—Dr. Mackay of Hornby on his leaving that village has been presented by his friends with a purse of gold as a testimonial of their appreciation of his professional services during the past five years. Colonel Foster of Hornby Castle made the presentation.

ST. JOHN AMBULANCE ASSOCIATION.—H.R.H. Princess Christian has fixed Monday, June 5th, for the presentation of the St. John Ambulance Association certificates, to the Norwood centre of which Her Royal Highness is President. The distribution will probably be made at the Crystal Palace.

THE death of Dr. W. J. Clegg, Mayor of Bacup, is recorded, the sad event taking place at his residence in the borough on Saturday. He was sixty-four years of age and held office in connexion with most of the local institutions. He was certifying surgeon for the Bacup district under the Factory Acts. Born in Bacup, he was educated at Paris and Edinburgh, taking his M.D. at the latter University.

HEALTH OF ABERDEEN.—A case of small-pox has appeared at Aberdeen. The patient is a tramp who had but recently come from the south of England and was lodged in a house of refuge. Other two cases have been placed under observation, but Dr. Matthew Hay reports that they are not cases of small-pox.

FOOTBALL CASUALTIES.—During a match upon the Westoe Field, South Shields, on the 1st instant, between No. 1 and No. 2 teams of the Boilermakers' Association, a player fractured his clavicle and another player received "a serious injury to his knee." In the course of a match at Yeovil on Saturday last a player sustained a compound fracture of the left leg.

NOTES IN PARLIAMENT.

Alien Immigration.

THE return just issued by the Board of Trade on the aliens who have arrived from various continental ports will very materially help to quiet the anxiety felt and somewhat loudly expressed on this subject. As might be expected, the number of immigrants coming from the port of Hamburg continued to be less than it was before the cholera epidemic—namely, 968 for the month of March—whereas in 1892, for the same period, the number was 1233. On the other hand, the immigration from Scandinavia has slightly increased. Care has been taken to distinguish between those who are merely on their road to America and those who are more likely to permanently settle in this country. Thus we find that the total number of immigrants stated to be *en route* for America and who landed in England during the three months ending March 31st, 1892 was 19,300, while for the first three months of this year the total had fallen to 15,829. The number of immigrants who were not stated to be *en route* for America was, during the first quarter of last year, 7634 and this year only 6959. But it does not at all follow that all these latter are going to settle in England. They include the deck passengers and persons who, after landing, travel third class from the ports of Dover, Folkestone, Harwich and Southampton—that is to say, all manner of excursionists and holiday folks who have come over for a short and cheap trip. Finally, in 1892 no less than 2802 sailors, and this year 2391 sailors, were included with the aliens who are stated to have landed in England and who are not *en route* for America. The sailors alone reduce the number of possible foreign settlers in this country by one-third, and the fact that there is a large emigration of foreigners from this country does not leave much margin for the increase of foreigners in England. Nevertheless, it is very necessary to watch these movements of population. The foreign pauper immigrants especially tend to degrade the houses they inhabit. Ignorant of sanitation, they increase existing evils and create new defects.

Famine in India.

In the House of Commons on the 11th inst., Mr. Schwann asked the Under Secretary of State of India, whether the recommendations included in the report of the Famine Commissioners had been adopted, and whether he would consent to the production of a report on the subject.—Mr. G. Russell replied that the recommendations referred to had been considered and some of them had been in process of being carried out. The Secretary of State would ask if the Government of India could furnish the return referred to.

The Factory Acts.

In reference to a resolution passed by the Belfast Trades Council complaining of the inadequacy of the supply of subinspectors for enforcing the provisions of the Factory Acts, Mr. Keir Hardie inquired if the Home Secretary proposed to take measures to supply such deficiency.—Mr. Asquith said he had already nominated fifteen additional inspectors' assistants, in addition to two female inspectors, all of whom, he was informed, had a practical knowledge of the work entrusted to them.

Tuberculosis.

In the House of Commons, on Thursday, a return was ordered on the motion of Mr. Knowles showing, in respect of the year ended March 25th, 1893, the number of carcases seized by medical officers of health and inspectors of nuisances in England and Wales under Section 116 of the Public Health Act, 1875, and Section 47 of the Public Health (London) Act, 1891, and of the number of such carcases condemned by justices under Sections 117 and 47 of those Acts, distinguishing as far as practicable the number so condemned in consequence of the animal having suffered from tuberculosis.

The Salt Tax in India.

In the House of Commons, on Thursday, Mr. Caine put a series of questions to the Under Secretary of State for India with reference to the salt tax in that country. *Inter alia*, he asked what steps the Government proposed to take to provide the people with salt at a reasonable rate and so relieve the lower provinces of Bengal of the inception of cholera and India generally of the ravages of that disease. Mr. George Russell, in reply, said it was matter of regret that it was necessary to retain the duty on salt. If the state of the finances of the country should permit, the Government of India would be glad to take the opportunity of reducing the tax, but at present, unfortunately, they had no prospect of such a reduction.

Disease amongst Horses.

Mr. Jacks asked the President of the Board of Agriculture whether he was aware that a great amount of disease was spread amongst horses by the horse boxes on railways not being properly disinfected and whether he could give instructions that they should in future be disinfected in the same manner as cattle trucks were. Mr. Gardner replied that the disinfection of horse boxes was provided for by Order 103 of the Animals Act, 1886, a copy of which he would be glad to show the hon. member. If his friend had any information pointing to any evasion of the existing regulations, he would be glad to receive it.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BERKELEY, G. H. A.C., M.B., B.C. Cantab., M.R.C.S.E., L.R.C.P. Lond., has been appointed House Surgeon at the Middlesex Hospital.

BOND, W. E., M.R.C.S., L.R.C.P., has been appointed Assistant Medical Officer to the Stockport Infirmary.

BONE, D. J. M., M.B., C.M. Edin., has been appointed Medical Visitor of the Gretna Bank Asylum, Lancaster

DAY, H. G. G., L.K.Q.C.P., L.M., L.R.C.S. Irel., has been appointed Medical Officer for the South City Dispensary, Dublin.

DEACON, G. E., M.R.C.S., has been appointed medical officer for the third sanitary district of the Henstead Union.

ELLIS, S., M.R.C.S., has been appointed Medical Officer for the Sixth Sanitary District of the Alderbury Union, vice Gordon, deceased.

KNOX, J. J., M.A., M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health to the Urban Sanitary District of East Molesey, vice Skimming, resigned.

LEADMAN, A. D. H., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the First Pocklington Sanitary District of the Pocklington Union.

MCCANN, FREDK. JOHN, M.B., C.M. Edin., M.R.C.P. Lond., has been appointed Physician to Out-patients at the Samaritan Free Hospital for Women and Children.

MCCRINDLE, J. R. R., M.B., C.M. Glasg., has been appointed Medical Officer of the North Riding Infirmary, Middlesbrough.

MCLEAN, C. J. R., M.D., C.M. Edin., D.S.M.R.C.P. Surg. Lieut., has been reappointed Medical Officer of Health for the Yeadon Urban Sanitary District.

MORGAN, T. L., M.B., M.S. Edin., has been appointed Medical Officer to the *employés* of the Clydach Vale Collieries.

MUNN, R. J., M.B., B.Ch. Irel., has been appointed medical officer of the new sub-district of the Castlereagh Dispensary.

MURPHY, G. WYNDHAM, A.B., M.B., M.Ch. T.C.D., L.M. R.C.P. J.P., has been appointed Medical Officer to the Westbourne Provident Dispensary, vice Schofield, resigned.

NAPIER, T. W. A., M.D., C.M. Aberd., has been appointed Medical Officer for the South Wallasey Sanitary District of the Birkenhead Union.

TALBOT, E. M., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Poplar Board of Works District of the Poplar Union.

TRETHOWAN, WILLIAM, M.B., C.M. Aberd., has been appointed House Surgeon to the West London Hospital.

WIGHTMAN, J. P., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Infirmary for Children, Myrtle-street, Liverpool.

WILD, ROBT. BRIGGS, M.D. Lond., B.Sc., M.R.C.S., has been appointed Honorary Assistant Surgeon to the Manchester and Salford Hospital for Skin Diseases.

WILKINSON, GEORGE, M.B., B.C. Cantab., has been appointed Senior House Surgeon to the Bolton Infirmary, vice Raw, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRADFORD INFIRMARY.—Dispensary Surgeon. Salary £100 per annum, with board and residence.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, London, S.W.—Clinical Assistantship. The fee is three guineas for the three months' course.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Pathologist. Salary 100 guineas per annum. Apply to the Secretary at the Office, 24, Finsbury-circus, E.C.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer (unmarried). Salary commences at £100 a year, with prospect of increase. Furnished apartments, board and attendance, provided.

GENERAL HOSPITAL, Birmingham.—Resident Surgical Officer, for one year. Salary £130 per annum, with residence, board and washing.

GENERAL HOSPITAL, Birmingham.—Assistant Obstetric Officer, for three years. Honorarium £100 per annum.

GENERAL INFIRMARY AT LEEDS.—Three House Surgeons—viz., two for a period of twelve months, and one for six months. Board, lodging and washing provided.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Physician. Salary £60 per annum, with board and lodging in the hospital.

INVERNESS DISTRICT ASYLUM, Inverness.—Assistant Medical Officer. Salary to commence at £100 per annum, with board, apartments and washing.

LONDON HOSPITAL, Whitechapel-road, E.—Medical Registrarship. Salary £100 per annum.

LONDON SCHOOL OF MEDICINE FOR WOMEN, 30, Handel-street, Brunswick-square, W.C.—Lectureship on Chemistry.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer, for six or twelve months. Salary £30 per annum, with board, attendance and washing.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Assistant Resident Medical Officer, for six months. No salary.

PLYMOUTH ROYAL EYE INFIRMARY.—Honorary Surgeon.

SMEDLEY'S HYDROPATHIC ESTABLISHMENT, Matlock.—Assistant House Physician, for six months. Honorarium of £20. Board, lodging &c. provided.

SOCIETY OF APOTHECARIES, London.—Examiners in Medicine, Forensic Medicine, Pathology and Midwifery.

ST. SAVIOUR'S UNION.—Dispenser at the Infirmary, East Dulwich-grove, Champion-hill, S.E. Salary at the rate of £120 per annum and dinner daily. Applications to the Clerk, Clerk's Offices, John-street-west, Blackfriars-road, S.E.

THE COPPICE, Nottingham.—Assistant Medical Officer (unmarried). Salary £120 per annum, with furnished apartments, board, washing and attendance.

THE HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Surgical Registrar and Anæsthetist, for one year. Honorarium of £40 at the expiration of that term.

THE HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Resident House Surgeon, for six months. Salary £25, board and residence in the hospital.

Births, Marriages and Deaths.

BIRTHS.

HOUGHTON.—On April 11th, at 8, FitzJohn's-avenue, South Hampstead, the wife of Philip A. Houghton, M.R.C.S., L.R.C.P., of a son.

MINTER.—On April 5th, at Plymouth, the wife of Ernest D. Minter, Surgeon, R.N., H.M.S. *Victoria*, of a daughter.

MCCAUSLAND.—On April 5th, at Swanage, Dorset, the wife of Albert McCausland, M.D., of a son, stillborn.

MOIR.—On April 6th, at Maybole, N.B., the wife of James Moir, Physician and Surgeon, of a son.

NAUMANN.—On April 3rd, the wife of J. C. F. Naumann, M.D., Gower-street, W.C., of a daughter.

PALEY.—On April 6th, at Montpelier-road, Brighton, the wife of Dr. F. J. Paley, of a daughter.

ROBERTS.—On April 9th, at Halstead, Essex, the wife of C. Gordon Roberts, M.A., M.B. Cantab., of a daughter.

MARRIAGES.

BURTON-FANNING—COOPER-BROWN.—On the 11th inst., at St. George's, Hanover-square, by the Rev. W. E. B. Barter, F. W. Burton-Fanning, M.B. Cantab., M.R.C.P., of Norwich, third son of the late E. F. Burton, of Lincoln's-inn-fields and Cleveland-gardens, to Christabel Eleanor Newell, eldest daughter of William Cooper-Brown, of the Woodlands, Thorpe, Norfolk.

FRERE—SAYERS.—On the 6th inst., at St. Margaret's, Ilkley, by the Rev. Irton Smith, M.A., assisted by the Rev. C. J. Steward, cousin of the bride, Arthur Hanbury Frere, M.B., C.M., second son of the Rev. E. H. Frere, rector of Horham, Suffolk, to Ruth Isabel, second daughter of the late Christopher Monro Sayers, Esq.

HANDFORD—GALE.—On the 8th inst., at St. Mary's, Nottingham, by the Rev. G. T. Handford, brother of the bridegroom, assisted by the Rev. Canon Sale, uncle of the bridegroom, and the Rev. Canon Richardson, Vicar of the parish, Henry Handford, M.D., Physician to the General Hospital, to Mary Emily, third daughter of the late Lord Belper, and widow of the late Henry Mark Gale Gale, of Scruton Hall, Yorkshire.

MURIEL—YARDLEY.—On the 12th inst., at St. George's, Campden Hill, by the Rev. W. C. Muriel, Vicar of Fulham, uncle of the bridegroom, assisted by the Rev. W. S. Yardley, cousin of the bride, and the Rev. Dr. Robbins, Vicar, Cecil Jeffery Muriel, of Willow-lane, Norwich, eldest son of Charles Evans Muriel, of St. Giles, Norwich, to Isabel Octavia, daughter of the late Sir William Yardley, of Hadlow Park, Kent, formerly Chief Justice of Bombay.

PARR—CROWE.—On April 6th, at Christ Church, Leeson Park, Dublin, by the Rev. Canon Neligan, D.D., assisted by the Rev. T. Liddesdale Palmer, J. F. Fitzgerald Parr, surgeon, &c., Glossop-road, Sheffield, youngest son of the late Rev. John Parr, to Martha Georgina, younger daughter of the Rev. Charles Crowe, late Rector of Newbliss, Co. Monaghan, and now of Leeson Park, Dublin.

WALLIS—BOVILL.—On the 11th inst., at St. Paul's, Grove Park, West, by the Rev. A. T. Pile, assisted by the Rev. Lewisan Lorraine, Vicar, Percy Evershed, M.R.C.S., L.R.C.P., of Old Stone House, East Grinstead, younger son of William Wallis, of Hartfield, to Mabel Louisa Penelope, only daughter of Edward Clarke Bovill, J.P., of Grove Park Lodge, Chiswick. No cards.

WILLIAMS—JAMIESON.—On the 12th inst., at the Church, St. John the Evangelist, Edinburgh by the Rev. G. J. Cowley-Brown, M.A., Rector, assisted by the Rev. James Henderson, M.A., Canon of Newcastle-on-Tyne, James Lawson Williams, M.B., C.M., Salisbury House, Tottenham, Middlesex, to Ella Mary, only daughter of W. Allan Jamieson, M.D., F.R.C.P., 35, Charlotte-square, Edinburgh.

DEATHS.

COWARD.—On April 4th, at The Ferns, Burdett-road, Christopher Thomas Coward, L.F.P.S. Glasg., L.M. and L.S.A., aged 53 years.

HITCHMAN.—On April 5th, at Fairford, John Hitchman, M.D., in his 78th year.

MEATES.—On April 8th, at St. Margaret's, Twickenham, William Clapham Meates, Surgeon, in his 79th year.

SPENCE.—On April 6th, at Linlithgow, Robert Spence, M.D. Edin.

THOMASON.—On April 10th, at Drybridge House, Hereford, Richard Henry Thomason, L.R.C.P., M.R.C.S., L.S.A., Associate of King's College, London, aged 27.

THOMPSON.—On April 10th, at Serjeant's Inn, Temple, Dr. Alfred Boyle Thompson.

WELLER.—On April 10th, at Stockwell House, Colchester, John Weller, L.R.C.P., son of the late William Weller, of Amersham, Bucks, aged 41.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 13th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
April 7	30·37	E.	44	42	93	67	39	..	Bright
,, 8	30·51	N.E.	42	41	87	60	41	..	Overcast
,, 9	30·30	N.E.	43	41	92	59	40	..	Bright
,, 10	30·27	N.E.	45	43	103	68	39	..	Bright
,, 11	30·27	E.	44	42	76	51	40	..	Overcast
,, 12	30·39	E.	42	39	79	50	39	..	Cloudy
,, 13	30·32	N.E.	47	42	90	51	40	..	Cloudy

Medical Diary for the ensuing Week.

Monday, April 17.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Case:—Mr. Haslam: Removal of Clavicle. Papers:—Dr. Handfield-Jones: Pyrexia in Acute Anæmia.—Mr. Marmaduke Sheild: A further communication on Hæmorrhage from the Groin in Sloughing Bubo.

Tuesday, April 18.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45; Saturday, 9.15.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.
PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Mr. S. G. Shattock: Lamellar Fibroma.—Dr. R. G. Hebb: Primary Carcinoma of Pleura.—Dr. R. Boyce and Dr. Surveyor (introduced by Dr. Boyce): Specimen of Madura Foot.—Dr. R. J. Hewlett: Note on the White Variety of Madura Foot.—Dr. R. G. Hebb: Atheroma of the Pulmonary Artery, with Occlusion of its Left Branch, &c. (Card Specimen).

Wednesday, April 19.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square).—8 P.M. Dr. S. Monckton Copeman: Variola and Vaccinia, their Manifestations and Inter-relations in the Lower Animals.
ROYAL MICROSCOPICAL SOCIETY.—8 P.M. Prof. D'Arcy Thompson: A New Tapeworm (Tænia Echidna).—Mr. F. Chapman: On the Foraminifera of the Gault of Folkestone.

Thursday, April 20.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.
HARVEIAN SOCIETY.—8.30 P.M. Dr. Handfield Jones: Some cases of Extra-uterine Fœtation.

Friday, April 21.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.
CANCER HOSPITAL (Fulham-road, S.W.).—4 P.M. Mr. E. Cotterell: Tumours of the Genito-Urinary System.

Saturday, April 22.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to the Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together.

We have had a large number of duplicate copies of the Index to the last half-yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

STRUCK DOWN AT HIS POST.

THE well-known authority on criminal anthropology, Dr. Alessandri, visiting physician to the great prison at Civita Vecchia, has just been assaulted, it is feared fatally, by one of the inmates. One Luigi Palzeri, who had been admitted into the prison on the 8th ult. to work out a sentence of twenty years' penal servitude, had lately shown marked insubordination, complaining of the food and maltreating the turnkeys. On the morning of the 23rd he said he was unwell and Dr. Alessandri examined him, but, finding no trace of disease or ailment, ordered him back to his cell. Palzeri then flew into a passion, abused Dr. Alessandri in the foulest terms, and demanded a larger supply of food. This was refused, whereupon Palzeri drew a pointed blade of iron from his jacket and plunged it in Dr. Alessandri's breast. Two of the prison officers at once threw themselves on the infuriated miscreant and in spite of the wounds he inflicted on them succeeded in manacling him and conveying him to the condemned cell. Meanwhile Dr. Alessandri was removed in a dying state to a room off the infirmary—the victim to professional duty. Besides his eminence in criminal anthropology he is widely respected as a physician and not less so in his capacity of Syndic of Civita Vecchia. Science would lose much by his death, as his recorded experience of, in some respects, the most typical penal institution on the Continent—"a menagerie of human hyenas" it has been called—was full of interesting illustrations of the connexion between crime and cerebral organisation.

Hospital.—A fully qualified matron with one assistant nurse should suffice.

H. C. and *Balance* have not enclosed their cards.

"SODA WATER *SANS* SODA."

To the Editors of THE LANCET.

SIRS,—Regarding your Annotation headed "Soda water sans Soda," I would suggest the name "aerated water" in place of "soda" or "potash" water—that is to say, if it is usually the case that what chemists sell in syphons &c. is simply water charged with CO_2. Medical men are constantly advising their patients to take potash or "seltzer" water in place of soda, but if the name on the syphon supplied is only altered and the contents are the same the whole thing is nothing but a deception. I shall in future when ordering these beverages find out whether they contain soda, potash &c. or not.

I am, Sirs, yours faithfully,

April 7th, 1893. VOX ET PRÆTEREA NIHIL.

PROMISCUOUS CIRCULATION OF MEDICAL CONTRIBUTIONS TO JOURNALS.

A CORRESPONDENT sends us a letter in which he complains of receiving frequently copies of articles advocating new modes of practice and thinks it objectionable as a method of advertising. Such objection might be made to a general distribution through the profession of such articles. It would be hard to deny an author the right of sending copies to professional friends, but the right is the better for being well regulated.

Mr. Robert H. Creighton.—Our correspondent states the case with apparent fulness and candour. We are the more glad to be able to make this statement, as we do not quite agree with him in his view. We consider that, as Mr. F—— was called in to the case, he was entitled to attend it until the patient or her husband made a clear intimation to him of their wish that our correspondent should replace him. We feel this the more as Mr. F—— had been the previous attendant of the family and was entitled to be treated with marked courtesy. We quite believe that our correspondent acted as he did in the belief that he was within his right; but the circumstances called for great consideration by Mr. F——. If our correspondent agrees with us he will do well to communicate with Mr. F——. There should be no difficulty in adjusting the matter amicably.

Enquirer.—The locum tenens has no claim. He is acting as the agent of the principal. As a matter of grace the principal may allow him the fee or half of it.

"INSOLUBLE TABLOIDS."

To the Editors of THE LANCET.

SIRS,—It has been represented to me that my letter of Feb. 15th, inserted in THE LANCET of March 4th, has been misunderstood, and that I am supposed to infer that the "tabloids" are insoluble. The heading, "Insoluble Tabloids," was not mine. I have not found them so; indeed, some of the same lot that passed through my patient unchanged were found to be quickly and completely soluble in water. My object in writing the letter was to ascertain, if possible, why quinine tabloids, perfectly soluble in water, should pass through the system of a patient suffering from enteric fever unchanged, and I regret that no explanation is apparently forthcoming.

I am, Sirs, yours truly,

Woodford-green, April 12th, 1893. WILLIAM G. GROVES.

*** In connexion with this subject we have received a communication from Messrs. Burroughs and Wellcome, who state that they cannot in the least understand any reason for complaint, since the tabloids in question immediately dissolve on the tongue or in water at 98°. This statement in regard to solubility we have fully confirmed by experiment in the laboratory. Mr. Groves also finds that the quinine tabloids are satisfactorily soluble in water, but the question he raises is, how is it that such tabloids, though shown to be freely soluble, pass through the system of a patient suffering from enteric fever unchanged? In such cases it would seem desirable therefore to follow up the administration of quinine tabloids with a draught of liquid to compensate for the apparent lack of solvents in the system.—ED. L.

MEDICAL ADVERTISING AT SYDNEY.

WE have received a batch of newspaper advertisements by men who profess to be qualified and legally registered, which are a discredit to their authors. It would be well if all such advertisements were gathered together and forwarded to the Colleges from which the authors derive their qualifications.

Messrs. Dennis & Luggo and Co. should consult the Year-book of Pharmacy, 1883, p. 260, and 1884, p. 258, published by Messrs. J. and A. Churchill, 11, New Burlington-street. We have found several references therein bearing on the subject mentioned.

W.—It would be right and kind to act on the ordinary principle in this case and to explain this to the friends.

A CASE FOR DIAGNOSIS.

To the Editors of THE LANCET.

SIRS,—A gentleman has consulted me regarding a curious abnormality of feeling in the tongue, which I am puzzled how to treat. Perhaps some of your readers will kindly give me some hints. Eighteen months ago my patient had a feeling of intense soreness on the dorsum of the tongue near the tip and a little to the left side. This was accompanied at times by an intolerable feeling of heat, relieved by the application of cold. After a month or two it became more intermittent, but never wholly disappeared. Three months ago the abnormal feeling changed to the other side of the tongue and continues to distress my patient intensely nearly every day. He never has been a smoker to excess, and, as various medical men have differently advised him as to the use of tobacco, he is able to perceive that exacerbations take place irrespectively of indulgence in or abstinence from tobacco. There is nothing visible to the naked eye, but with the aid of a lens one can see here and there a reddened and slightly enlarged papilla. The digestion is good and the temperament only slightly tending to the neurotic.

I am, Sirs, yours truly,

April 10th, 1893. J. D. R.

"CANCER PLASTERS."

A SUGGESTION has been thrown out to the effect that if all cases of reported cures were published a check would be given to the followers of such practices in future. A correspondent reports a conversation which he had with an intelligent woman, the wife of a working man, who suggested that the extinction of quacks in all their multifarious forms would come through the "survival of the fittest." This woman told him how a certain neighbour, who had carried on an extensive practice as a "cancer-curer" in Guernsey, throve amazingly until a sufferer from the disease fell a victim to his "remedies." This result so undermined his reputation that his nefarious practice came to a speedy termination, to the great benefit personally and primarily of the community in which he resided. "My belief is," says our correspondent, "that the more quack work there is the fewer quacks we shall have." The suggestion is worthy of consideration, but the experiment is not without risk.

Wales.—1. It is not in accordance with professional custom for registered medical practitioners in England to advertise their address and hours of consultation in newspapers.—2. Such a decision of the General Medical Council has not yet been given.—3. There is very great objection to a specialist in skin and syphilitic disease describing himself as such on his plate. To say nothing of the immodesty of such an assumption, and its being unprofessional, it would be a breach of public propriety.

Miss L. Gabell should consult our advertising columns.

MEDICAL OFFICERS OF HEALTH AS DIAGNOSTICIANS.

To the Editors of THE LANCET.

SIRS,—May I direct your attention to the following? I recently reported a case of foul throat with membranous deposit on both tonsils as diphtheria. The medical officer of health called and declared the case to be simply a "sore throat from a cold." Kindly say whether he was justified in giving an opinion, and, if so, what protection, if any, I have in cases of doubtful diagnosis from this gentleman's criticism. I may add that the existence of the membrane in this case was beyond doubt and I could not do otherwise than report it.

I am, Sirs, yours truly,

Romford, April 5th, 1893. ARTHUR J. RYAN, L.R.C.P. Edin. &c.

*** The interference of medical officers of health in diagnosis of cases notified to them is becoming a serious question. The interference is as unreasonable as it is illegal. They are not occupied, as the notifying practitioner is, every hour in seeing and in differentiating disease, and they are not responsible for errors of diagnosis, as he is. Above all, the law gives no authority to the medical officer of health to sit in judgment on the diagnosis of the notifier. The above case is only an illustration of almost a weekly complaint. No doubt every exudation on the tonsils is not diphtheria. To constitute that disease more than a merely local condition may be thought necessary. But all this must be decided by the practitioner, on whom the law has devolved the duty of notification, and it is not right that he should be disparaged in the discharge of a serious duty by the medical officer of health.—ED. L.

A CIRCULAR.

THE following circular has lately been extensively distributed around the neighbourhood of Grosvenor-square by a University Graduate (?), who, whilst too modest to give his name, does not hesitate to lend himself to such a method of obtaining patients, or, still more, to put aside for such an object the respect due to the dignity of the profession to which he claims to belong:—

"Suffield Chambers Dispensary, 75, Davies-street, W. (corner of Robert-street).—The above conveniently situated consulting-room has been opened by a University Graduate for the treatment of all medical and surgical affections by the most advanced scientific methods. The fees will be on the most moderate scale, and medicine, when required, will be dispensed without charge. Hours for consultation: Daily from 11 till 2 and from 6 till 9; Sundays from 11 till 12 30. Urgent cases will be attended at other hours on application at 39, Weymouth-street, Portland-place, W."

ERRATUM.—In an annotation headed "Death during the Administration of Chloroform," published in our last issue, p. 810, relating to a case which had occurred at King's College Hospital, a slight inaccuracy occurs in our description of the verdict returned by the jury. The verdict ought to have been reported as follows: "Death from syncope from fright, *during the administration* of chloroform."

During the week marked copies of the following newspapers have been received:—*Lincolnshire Chronicle, Le Courrier de la Presse (Paris), Railway Herald, School Board Chronicle, Stock-keeper and Fanciers' Chronicle, Lincoln Mercury, Leicester Chronicle, Public Opinion, Auckland Times, Law Gazette, Salisbury Journal, Ilkeston Pioneer, Daily Chronicle, York-hire Post, Leeds Mercury, South Wales Daily News, Daily News, Morning Post, Melbourne Argus, Daily Telegraph, Bristol Mercury, Liverpool Daily Post, Bradford Observer, Le Temps (Paris), East Anglian Times, Manchester Guardian, Newcastle Chronicle, Berwickshire News, Stockton Herald, Morning Advertiser, The Times, Record, Tablet, Huddersfield Chronicle, Leamington Spa Courier, Derbyshire Times, Wrexham Advertiser, Pioneer Mail, Times of India, Devon and Exeter Gazette, Greenock Herald, Warwick Times, Alnwick Gazette,*

Communications, Letters &c. have been received from—

A.—Mr. Frank Arnold, Peckham; Mr. George Alexander, London; Messrs. Arlard and Son, London; Messrs. Armour and Co., London; A. A., Shrewsbury; Anderson's College Glasgow, Dean of.

B.—Mr. W. A. H. Barrett, Guildford; Mr. C. Birchall, Liverpool; Mr. G. Browning, Sheffield; Mr. J. T. Biggs, Leicester; Mr. Henry C. Burdett, London; Mr. E. Stanmore Bishop, Manchester; Mr. J. Beckton, London; Miss M. F. Billington, London; Messrs. Burgoyne, Burbidges and Co., London; Messrs. Burroughs and Wellcome, London; Bradford Infirmary, Secretary of; Birmingham General Hospital, Secretary of; B. B.

C.—Dr. Chas. H. Cattle, Nottingham; Dr. Robt. H. Creighton, Ballyshannon; Mr. G. Carter, Ilkley; Mr. F. Carda, London; Mr. Chas. P. Childe, Southsea; Messrs. Crossley, Moir and Co., London; Cheltenham General Hospital, Secretary of.

D.—Dr. C. Dixson, Brentford; Mr. W. Duncan, Gloucester; Messrs. S. Deacon and Co., London.

E.—Dr. F. W. Edridge-Green, Henlow.

F.—Dr. Faure-Miller, Paris; Mr. Rogers Field, London; Mr. P. V. Faucher, Quebec.

G.—Mr. E. C. Garland, Yeovil; Mr. W. G. Groves, Woodford; Messrs. C. Griffin and Co., London.

H.—Dr. V. D. Harris, London; Mr. J. S. Hodson, London; Mr. T. J. Hanley, London; Mr. Leopold Hudson, London; Mr. Heywood, Manchester; Messrs. Hertz and Collingwood, London.

I.—Inquirer; Inverness District Asylum, Med. Superintendent of.

J.—Dr. P. R. H. Jagannadham, Bussorah, Persia; Mr. W. Makeig Jones, Rotherham; Mons. G. Jeannie, Paris.

K.—Dr. R. Lawford Knaggs, Leeds.

L.—Dr. J. Fletcher Little, London; Dr. Reginald H. Lucy, Plymouth; Prof. Guiseppe Lapponi, Rome; Mr. W. Arbuthnot Lane, London; Mr. A. Latham, London; Messrs. Lee and Martin, Birmingham; Leeds General Infirmary, Secretary of.

M.—Dr. L. E. Morgan, Paris; Dr. S. Moritz, Manchester; Mr. W. Morris, Wallsend-on-Tyne; Mr. C. H. Miles, Stantonbury; Mr. H. Milton, Cairo; Messrs. F. May and Co., London; Messrs Marriott and Co., Hastings; Maltine Manufacturing Co.; May, London.

P.—Mr. T. Wilson Parry, Uxbridge; Mr. Richards H. Pfeil, Purley; Messrs. Parke, Davis and Co., London; Physician.

R.—Mr. Arnold Royle, Esher; Mr. R. Rauschke, Leeds; Reginaris Co., London; Russell Advertising Co., London.

S.—Dr. Thos. G. Stevens, London; Dr. W. Ramsay Smith, Edinburgh; Dr. Sidney H. Snell, Grays; Mr. A. Marmaduke Sheild, London; Mr. W. J. Ernely Sumpter, Sherringham; Mr. J. Lionel Stretton, Kidderminster; Mr. A. Stenhouse, Glasgow; Mr. H. Selt, London; Messrs. Swan Sonnenschein and Co., London; Messrs. Squire and Sons, London; Messrs. Salamon and Co., Rainham; Messrs. Savory and Moore, London; St. Mungo's College, Glasgow, Dean of; St. John's Ambulance Association, Secretary of; S. V., Liverpool; Salford Royal Hospital, Secretary of; Sheffield School of Medicine, Secretary of; Smedley's Hydropathic Establishment, Matlock; Sanitary Wood Wool Co., London.

T.—Mr. F. Treves, London; Dr. E. Symes Thompson, London; Dr. J. Hilton Thompson, Bolton; Messrs. C. Tayler & Co., London.

U.—University College, Dundee, Registrar of; University of Glasgow, Registrar of.

V.—Vox et præterea nihil.

W.—Dr. S. H. Wright, Monmouth; Mr. Arthur E. Watson, Torquay; Messrs. Whitworth and Stuart, Manchester; Worcester General Infirmary, Secretary of.

Y.—Mr N. E. Yorke-Davies, London; Yorkshire College, Leeds, Registrar of.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. C. Adam, Elgin; Messrs. Austin and Son, Clifton; Alpha, Birmingham; Alpha, Bridport; A. B., Tunbridge Wells; Ashwood House, Kingswinford; A. F. J., Bournemouth.

B.—Dr. Beck, Scarborough; Mr. Bencke, Brixton-hill; Mr. R. O. Bunting, Southsea; Mr. W. S. Battiss, Southsea; Birmingham Children's Hospital, Secretary of; Basil, London; Bos, London.

C.—Mr. J. Cochrane, Wigtonshire; Mr. W. P. Cox, Leicester; Miss Costello, Taunton; Christopher, London; Country, London; Cantab., London; Clive, London.

D.—Mr. A. Duckham, Darlington; Mr. R. H. Drennan, Brighouse; Dispenser, Mortlake; D., London.

E.—Dr. W. R. Evans, Llanberis; Mr. B. Edwards, Birmingham; Endymion, London; Edinburgh School of Medicine, Secretary of.

G.—Mr. W. Gilyard, Bradford; Mr. W. E. Groves, Dorchester; Messrs. Giles, Schacht and Co., Clifton; Messrs. Gardiner and Co., Wisbech; G. H. B., London; G., London; Golf, London.

H.—Dr. H. Harley, Wellingboro'; Mr. A. H. Hughes, Holywell; Mr. W. Halley, London; Miss J. E. Heath, Cardiff; Hartlepool Hospital, Secretary of; H. G. M., London; Hastings, London.

I.—Miss Ireland, Walker-on-Tyne; Messrs. A. and J. Inglis, Glasgow; Ichthyol, London.

J.—Dr. W. A. Johnson, London; Mr. F. F. Jones, Llanfyllin.

K.—Messrs. Keith and Co., Edinburgh.

L.—Dr. Lovegrove, Canterbury; Dr. J. D. Leigh, Brotton-in-Cleveland; Mr. J. Logan, Glasgow; Mr. E. G. Lumsden, Sheffield; Mr. H. J. Lloyd, Barmouth; Miss Lorne, Brighton; L. W., London; Lady Superintendent, Burton-on-Trent; Licentiate, London; Lancet, New Brighton; London Throat Hospital, Secretary of; Locum, Lincoln

M.—Dr. A. J. MacLaughlin, India; Dr. McClure, Walton-on-Thames; Mr. W. R. Mallet, Exeter; Mr. J. Macdonald, jun., New York; Mr. C. J. Muriel, London; Rev. R. Murchison, Bristol; Messrs. McHugh and Co., Belfast; Messrs. Montgomery and Plumbe, Maidenhead; Medicus, Bournemouth; M. A. B., London; M.D., Westminster; M. B. S., Edinburgh; M.R.C.S., London; Manchester Royal Infirmary, Secretary of; M.D., London; Merson, Willerby.

N.—Mr. J. W. Norman, Teignmouth; Mr. L. Nicholls, Bury St. Edmunds; N. L. F., London.

O.—Mr. G. W. O'Flaherty, Downpatrick; Mr. W. Odell, Torquay; O. L., Weymouth.

P.—Mr. T. T. Prout, Morris Plains, N.J.; Mr. W. J. Parry, Bethesda; Mr. W. J. Pettus, Southampton.

R.—Dr. W. L. Ross, Cumnestown, N.B.; Messrs. Richardson Bros. and Co., Liverpool; Rawlence, London; R. C., London.

S.—Dr. E. M. Shirtliff, Ryde, Isle of Wight; Mr. Shaw, London; Mr. C. Stonham, London; Mr. H. Saunders, Cromer; Miss Sherwood, Whitby; Messrs. Schweitzer and Co., London; Messrs. Slinger and Sons, York; Messrs. W. H. Smith and Son, Liverpool; Stethoscope, London; Surgeon, London; Sheffield Children's Hospital, Secretary of; Stockport Infirmary, Secretary of.

T.—Mr. E. Toller, Eastbourne; Mr. J. Thin, Edinburgh; Mrs. Tyte, Minchinhampton; Taunton and Somerset Hospital, Secretary of; T. W., London.

V.—Veritas, London; Vita, London; Victoria, London.

W.—Dr. J. Whitwell, Menston; W. H. M., London; W. H., Nottingham.

X.—X., Poole.

SUBSCRIPTION.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year ..... £1 12 6 | Six Months £0 16 3

TO THE CONTINENT, COLONIES, UNITED STATES, INDIA, CHINA, AND ALL PLACES ABROAD ..... One Year 1 14 3

*** In consequence of the new postal arrangements, the Annual Subscription for India, China, and all foreign countries will now be reduced to £1 14s. 3d., instead of £1 16s. 10d. as formerly.

Post Office Orders and Cheques should be addressed to The Publisher, THE LANCET Office, 423, Strand, London, and crossed "London and Westminster Bank, St. James's-square."

ADVERTISING.

Books and Publications (seven lines and under)	£0 5 0
Official and General Announcements	0 5 0
Trade and Miscellaneous Advertisements	0 4 6
Every additional Line	0 0 6
Front Page — per Line	0 1 0
Quarter Page	1 10 0
Half a Page	2 15 0
An Entire Page	5 5 0

The Publisher cannot hold himself responsible for the return of testimonials &c. sent to the office in reply to advertisements; copies only should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 66, Rue Caumartin, Paris.

REPORT OF THE LANCET COMMISSION

APPOINTED TO INVESTIGATE THE SUBJECT OF THE

ADMINISTRATION OF CHLOROFORM

AND OTHER ANÆSTHETICS

FROM A CLINICAL STANDPOINT.

THE cases already published may be now referred to as illustrative of various points of extreme interest in connexion with the present report. Chloroformisation is conveniently divided into various stages, each of which presents phenomena peculiar to itself. Dr. Snow employed a useful classification of these stages or "degrees" of narcotism under chloroform, which will be adhered to as a matter of convenience in dealing with the ways in which death appears to occur. The first degree covers the period between the commencement of inhalation and the impairment of consciousness. During the second degree there are mental confusion and violent struggling, sensation to pain being blunted. In the third degree there are loss of voluntary movements, muscular rigidity, epileptiform convulsions, and the reflexes are in abeyance. In the fourth stertorous breathing, dilatation of pupils and complex muscular relaxation are met with. The fifth degree extends from respiratory embarrassment to total cessation of respiration.

Deaths in Narcosis of First Degree.—Illustrations of this may be found in various cases under Series A. For instance, in Case 28 the patient, after four or five inspirations, answered a question and suddenly died. It appears from this and similar cases that death occurring in this degree of narcosis is the result of heart failure; but it is difficult to be certain whether the heart failure is merely in coincidental or in causal relation with the $CHCl_3$ inhalation. Case 59. "Gasping respiration"—a peculiar danger of this and the second degree. The convulsive movements point, with the other symptoms, to an overdose. Case 60. An instance of the "shot-down" form of death, which would appear to result from the sudden intake of a dose which for the particular individual proved lethal. Case 73 and many others, which will readily be seen by studying the abstracts, exemplify the common mode of death in this degree of narcosis. When dealing with the other anæsthetics, especially with ether, it will be seen that these deaths, which take place at the very commencement of inhalation and which are assigned by some persons as examples of "death from fright," are practically only met with when $CHCl_3$ or a congener is used. Upon the other hand, a few cases of death from fright upon the operating table are on record when there was no question of $CHCl_3$ or any other anæsthetic having been employed. Case 77 appears to be a further instance of cardiac failure.

Deaths in Narcosis of Second Degree.—Series A, Case 11. The stage of struggling which occurs as the patient passes from the second into the third degree of narcosis is one of peculiar danger, as all violent muscular efforts are marked by irregular respirations, frequently with powerful inbreaths of air, which if $CHCl_3$ vapour in any degree of potency is inhaled may readily lead to an overdose. A moment's consideration will show that under these circumstances a vapour well within the 5 per cent. strength of safety (Clover) may, by the patient taking a breath of double the ordinary depth, become a lethal dose, the more so if, as is commonly the case, the chloroformed air be incarcerated by the expiration being delayed whilst fresh muscular efforts are being made. In Case 11 of Series A the patient "struggled for a moment" and finally died "in the stage of excitement." In Case 33 the patient died during the stage of excitement. In Case 34 death followed "a long inspiration." In Case 56 the patient, probably by "the long, deep breath," took in a lethal dose. Had the usual rate of respiration been maintained, the dose inhaled would have been well within the safe zone. Case 61 affords a further instance of the perils of a prolonged period of muscular excitement causing overdose and collapse.

Deaths in Narcosis of Third Degree.—During the third degree, or that adopted for surgical procedure, deaths are commonly reported as occurring apparently from failure of respiration or from failure of the heart's action. On the one hand, however, it is asserted that all cases are really due to respiratory paralysis; whilst, on the other, we find careful records sent us of fatalities which the reporters believe were solely due to cardiac failure. In Case 67 an initial period of excitement was controlled by more $CHCl_3$. The respiration and pulse remained regular and the operation was completed. On removal of $CHCl_3$, whilst remarks were being made on the case, the pulse stopped, but respiration continued. This illustrates a case of apparent heart failure. Case 70 was also assigned as one of syncope.

Deaths in Narcosis of Fourth Degree.—In Case 50 the stertorous breathing marked the passage from the safe to the dangerous degree of narcotism. The breathing was restored by artificial respiration; but the patient shortly relapsed into feeble respirations, which finally ceased. This is a common enough history and seems to point to a graver state of affairs than the mere temporary poisoning of the respiratory centre in the medulla by the chloroform in the blood stream.

Deaths in Narcosis of Fifth Degree.—Case 74. The delimiting line between the fourth and fifth degrees of narcosis is one not easily recognised in all instances. It is usual to push $CHCl_3$ to the fourth degree, for reduction of dislocations or other surgical procedures when complete muscular relaxation is required. In every instance the warning stertor is not present, especially if the chin be held up, and then the medullary centre may become poisoned and, as in this case, the respiration fails—an event followed more or less immediately by cessation of the heart's action and ghastly pallor. The failure of respiration in these cases is gradual and death is due to overdose or interference with the elimination of the drug. The above appears to represent the usually accepted opinion upon this point and expresses Dr. Snow's views.

Modes of Death under Chloroform.—Various ways in which patients die when poisoned by $CHCl_3$ are well exemplified in the tabulated cases before us. 1. In the first degree (*vide supra*) patients die suddenly as if shot, respiration and cardiac action ceasing simultaneously and suddenly; compare Series A, Cases 23, 28, and Series B, Cases 9, 32, 34, 63, 64, 95, 104, 116, 122, 126, 153, 158 (noticeable, as it is expressly mentioned that no respiratory difficulty was in evidence), Cases 187, 253, 275 and others. 2. Death supervening suddenly, just as operation was commenced; this has occurred many times in dental operations attempted under chloroform, also in reductions of dislocations. It occurs when the patient is supposed to be in the third degree of narcotism, but it is probable that that stage in many of these cases is never reached; cf. Series A, Cases 27, 41, 65, 72, and Series B, Cases 57, 75, 108, 110, 112, 166, 239, 242 and others. 3. Death during the stage of excitement and struggling; cf. Series A, Cases 11, 17, 19, 34, 61; Series B, Cases 19, 25, 195, 199, 244, 247, 262. 4. Spasm of respiratory apparatus occurs in many cases, such as Series B, Case 39, in which the muscles concerned in respiration passed into spasm and the patient died from asphyxia. This may occur from laryngeal spasm due to irritation of pure $CHCl_3$ or an impurity in it. This case should be compared with Series A, Case 62. 5. The occurrence of vomiting, even when it does not lead to sucking in of the vomit into the air passages, seems in many cases to have coincided with the instant of death. It may of course be a phenomenon of dissolution just as ejection of the fæces and urination often are, but upon the other hand it is to be remarked that when vomiting comes on in cases where no fatal result occurs there is a marked deterioration of the pulse and fall of blood pressure (cf. Series B, Case 273, where not only vomiting but muscular spasm occurred). 6. Sudden death occurred just as "fresh chloroform was given," no doubt due to an overdose being taken in; cf. Series B, Case 28, as a typical instance of this.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
282	45	M	Removal of tumour involving hard and soft palate.	Clover's apparatus; flannel cone.	R.	Struggled violently, rose to his feet (seated in chair) and pulled gag from mouth. Was laid on table *before* $CHCl_3$ *re-commenced*, and $CHCl_3$ given by flannel cone. Breathing ceased, face turned dusky, tongue protruded between teeth. Tongue at once drawn forwards; head and shoulders pulled below level of table, body turned upwards, and artificial R. (Silvester's method) tried for ½ hour. A few gasps. Slapping with wet towels and faradism to phrenic nerve, and epigastrium also tried.	? P.M. Heart flabby and light coloured. Lungs and brain moderately congested, but no other appearances.	Patient advised not to have an anæsthetic.
283		F	Extraction of teeth.			2 or 3 stumps extracted, when face became deadly pale. Measures to restore animation adopted and medical assistance sent for. Death took place immediately.		Sitting posture. Dentist (qualified surgeon) absolved from blame.
284			Small operation.					Healthy subject. "No one's fault."
285	60	M	Reduction of subglenoid dislocation of humerus.	½ dr.	P.	Pupils began to dilate and heart's action to fail. Restorative measures of every kind of no effect, and patient died in a few minutes. Among measures used were drawing forward tongue, artificial R. and galvanism.	From fatty degeneration due to drinking habits. Syncope. P.M. Heart fatty and degenerated, and kidneys granular.	Patient had been hard drinker, but for a few months "temperate." Nothing in previous examination to contra-indicate use of $CHCl_3$.
286	45	M	For exploration of sinuses in right femur (13 minutes).		P.	Violent struggling, stoppage of P. Usual methods of resuscitation with no effect.	Syncope. P.M. Fatty degeneration.	Healthy looking man.
287	8	M	On left knee bent almost at right angle.	On lint. 1½ to 2 dr. in 2 doses.	P.	Towards end of operation, which was rather prolonged, P. stopped. Measures resorted to were: Holding up by legs, artificial R., slapping with wet towel, application of hot sponges to heart, enema of brandy and ammonia, and of ammonia and nitrite of amyl to nostrils. Artificial R. continued for 1½ hour.	? Syncope.	
288	32	M	Reduction of recent inguinal hernia.	Folded lint, 2 dr. (about).	P.	P. became feeble and R. stertorous, face livid. Measures resorted to were: Putting pillow under shoulders so that head fell backwards, tongue drawn forward by forceps, artificial R. (Silvester's method), injection of brandy 2 oz. with warm water per rectum, flapping chest with wet towels, rubbing and warming extremities. Patient ceased breathing 3 or 4 minutes from beginning of seizure. Faradism to phrenic nerve tried later on and artificial R. kept up ½ hour.	P.M. Lungs and brain congested. Heart large, cavities full of dark blood. Right ventricle thinner than normal, and overlaid with fat. No naked eye evidence of fatty degeneration.	Patient not strong. Hernia not strangulated; attempts to reduce it after bath unsuccessful.
289	60	F	Extraction of tooth.					Sitting posture.
290		M	Extraction of thorn from foot.					
291		F	For labour.					
292		F	For labour.		P.	$CHCl_3$ given for slight convulsions; pains returning, more given; tremor occurred, P. ceased, and patient was dead.	? Syncope.	
293	37	M	Removal of carious bone from stump of arm.	Lint, 2 dr.	P. & R.	Breathed equably for a few moments, but when bone was grasped, breathing stopped and P. ceased, about same time. Artificial R. performed (Silvester's method) for ½ hour. Brandy not given.	Syncope. P.M. Marked fatty degeneration of heart. See *Boston M. & S. J.*, 22 Feb. 1877, p. 234, where the administration of $CHCl_3$ in this case is severely criticised. See also *M. P. & C.* 11 April, 1877, p. 289, where report of this case is quoted from *Student's J.* in which the heart is stated on P.M. examination to have been found *fairly healthy*.	

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
294		F	Removal of tumour in throat.			Died before operation could be completed. All efforts to restore consciousness futile.	"Spasm of larynx."	
295	43	M	Amputation of finger.	Lint. Over 1 dr.	R.	R. ceased and then P. in temporal arteries could not be felt. Artificial R. started and kept up ¾ hour; left external jugular vein opened; battery and every other means used to restore animation.	? Asphyxia from pressure of bronchocele. P.M. Heart contracted and empty, fatty degeneration. Bronchocele involving left lobe of thyroid gland.	Had taken meal shortly before coming to hospital. In habit of drinking three gallons of beer daily.
296	52	M	Reduction of strangulated hernia.	On thin handkerchief. 2 dr.	P.& R.	After small 2nd dose had been given on account of returning consciousness, breathing became suddenly shallow and irregular and radial P. could not be felt. Usual means of resuscitation resorted to but patient never rallied.	? Syncope. No P.M. allowed.	History of rheumatic gout.
297	43	F	For aneurysm of aorta pressing on trachea (2 minutes).	Small quantity.	R.	Exhibited signs of obstruction, superincumbent position increasing pressure on windpipe. Artificial R. of no use so laryngotomy performed, but left innominate vein being occluded some veins crossing, larynx dilated and wounded in operation. Quantity of blood entered air passages; though sucked out, delay fatal.	Asphyxia from pressure. "Patient had declared she could not lie down without choking. Two pillows were, however, placed under her head and she was persuaded to recline." *Students' J.*	
298	56	M	For fistula.	3 dr.	R.	Violent muscular spasm, R. became embarrassed, and death took place in spite of every effort at resuscitation.	Failure of R. owing to muscular spasm, as the respiratory muscles as well as other muscles of the body were in state of rigid contraction.	"At these times the administration of $CHCl_3$ should be entirely suspended till spasm ceases."
299		M	For perineal fistula.			Death ensued quickly on stage of struggling.	Asphyxia, according to P.M. appearances. Anæsthetic given while tonic muscular contraction going on.	
300	27	M	For disease of knee (chronic synovitis).	Skinner's inhaler.	P.	Alarming symptoms appeared, and death took place in a few minutes. Tongue drawn forward, face and chest slapped with wet towel, enema, nitrite of amyl, artificial R. (Silvester's method).	? Syncope. P.M. Fatty degeneration of heart.	Intemperate.
301	23	F	Operation on eye.	4 dr.		Operation performed but patient died a few hours later.	Effusion of blood on brain, death accelerated by vomiting caused by administration of $CHCl_3$. P.M. Brain softer than natural, coagulated blood in several places.	Examined previously to operation and found to be fit subject for $CHCl_3$.
302	38	M	Reduction of paraphimosis of three days' standing.	Lint.	P.& R.	R. suddenly stopped, face livid, lips blue, P. failed. Artificial R. resorted to, and chest flicked with wet towel. After 5 minutes R. restored, but no return of P., hypodermic of brandy (½ dr.), and faradisation employed, artificial R. kept up ¾ hour.	Syncope. P.M. Heart dilated and fatty, walls flaccid, no valvular disease, lungs and all internal organs congested.	Nothing seemed to contra-indicate use of $CHCl_3$.
303		F	Slight operation.	2 dr. (given drop by drop).			P.M. Fatty degeneration of heart.	
304	48	M					P.M. "Death under chloroform."	"Aneurysms of abdominal aorta, popliteal arteries," &c.
305	29	M	For fistula in ano.		? P.	Patient became suddenly blanched in face and breathed feebly. Artificial R. for 1 hour, but patient died.	P.M. Heart hypertrophied.	Patient in fairly good health.
306	23	F					"Chloroform inhalation." P.M. refused.	"Old disease of kidney, perinephritic abscess, psoas abscess."
307	18	M	Removal of elongated and indurated prepuce (2 or 3 minutes).	1 dr.	? P.	Spasmodic change, sudden lividity of countenance, and sudden dilatation of pupils. Measures resorted to were: Dashing cold water on face and chest, admitting air into room and artificial R. for long time.	No P.M. allowed.	Heart previously examined; nothing found to forbid use of $CHCl_3$.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or P.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
308		F	Removal of tumour in axilla.	Small quantity.		$CHCl_3$ had been given and patient died suddenly.	? Syncope. P.M. Fatty degeneration of heart.	
309	41	M	Extirpation of right eyeball (8 to 10 minutes).	Skinner's Inhaler. 3 dr.	R.	After 3 or 4 minutes, stage of excitement entered which lasted 2 or 3 minutes. Again became quiet, conjunctivæ became insensible to touch, pupils contracted, muscular relaxation not complete, jaws firmly clenched, P. and breathing good. Operation commenced, breathing ceased, P. still going. Chest at once was compressed, but in 1 or 2 seconds P. had stopped. Artificial R. (Silvester's and Sayre's methods) ½ hour, galvanism, inversion, dashing of iced water on face and chest, and ice in rectum. Patient breathed a few times, but no P. or heart beat. R. and action of heart seemed to cease almost simultaneously.	Syncope. P.M. Heart 12 oz. Left ventricle 2 dr. fluid blood, right ventricle the same, muscular substance flaccid with commencing fatty change. Lungs emphysematous, no marked congestion, frothy serum on section. Kidneys very congested, slight granular change. Liver congested, healthy. Brain: congestion of cerebral veins on section.	Apparently healthy before administration, heart acting powerfully and sounds clear.
310		F						
311	34	F	For fistula in ano.	Folds of lint. 3 dr.	P.	Just as division of fistula was being performed, 2 minutes after withdrawal of $CHCl_3$ patient gave sharp scream, pupils dilated, urine passed involuntarily, face became pale, heart's action and P. suddenly ceased, and shortly breathing ceased too. Measures resorted to were: Artificial R., admitting fresh air to room, interrupted shocks to heart from coil, brandy injection per rectum, opening of right median basilic vein. A few feeble Rs. resulted, but in an hour attempts abandoned as hopeless.	"Death from action of chloroform on diseased heart." P.M. Heart collapsed, pale, covered with layer of fat, weighed 9¾ oz., cavities empty, walls very thin and pallid, well marked fatty degeneration. Apparently atheromatous patch on mitral valve, base and transverse part of aorta atheromatous.	
312	41	M	For perineal urethrotomy (¾ hour).	1 oz.	R.	Operation had been performed and anæsthetic removed for a few seconds, when patient ceased to breathe. Efforts made to restore life—but without avail—were artificial R., amyl nitrite, inversion, &c.		
313			Amputation of leg.			Died before amputation could be begun.	? Syncope.	
314								
315		M	For iridectomy.	3 dr.		Was not unconscious of pain at beginning of operation, which lasted about 5 minutes. Heart stopped suddenly; 2 or 3 gasping inhalations. Efforts at resuscitation unavailing.		Had inhaled 2 dr. $CHCl_3$ the preceding day without injury.
316	38	F	Reduction of dislocation of elbow.	Inhalation by Simpson's method. Small quantity (40 drops).		Alarming symptoms; artificial R., ammonia, vapour, and Hoffman's ether used with no avail.	"Inability of a weak heart to carry on circulation through the lungs." P.M. Fatty heart.	
317	34	M	For fistula in ano.	On lint. 2 dr.	P.	Struggled violently, pupils became largely dilated, and P. stopped. Galvanic battery to cardiac region, chest struck with cold wet towel, and brandy injection per rectum. Breathed spasmodically. Lifted up by feet for few seconds and breathed more regularly. Lifted up again, no improvement, but causing congestion of head. Five minutes from the time struggling began he ceased to breathe altogether. Artificial R. and galvanic battery tried for 20 minutes.	Syncope. P.M. Pleural cavities and pericardium empty and with no adhesions. Lungs congested. Heart covered with fat, flabby, pale, dilated, valves healthy, cavities empty, wall thin. Microscopically heart showed fatty degeneration.	Besides the fistula in ano, patient had ulcer of right leg which healed under treatment. Health otherwise robust. Auscultation showed nothing wrong about heart. Very excited before operation.
318	15	M	On stump of arm.	On lint. 2½ dr. used, of which much supposed to have evaporated from lint.	P.	After completion of operation breathing stopped. Tongue drawn forward and breathing began again. Showed signs of feeling in stump of arm. Breathing loud and peculiar. No radial P. felt and no bleeding from wound, heart's action having ceased. Means for resuscitation	Syncope. P.M. Right apex of lung slightly adherent. Pericardium contained 2 dr. of clear serum. Heart: valves healthy, right	Of florid complexion and apparently in good health. Arm had been amputated seven years previously. Stump had become conical and

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
						were: Galvanism, artificial R., friction, brandy and ammonia enemata, champagne passed into stomach by means of tube; restorative measures used for ½ hour.	side distended with fluid blood, left, contracted, muscular tissues healthy.	skin had ulcerated over end of bone.
319	3	M	For malformation.	20 minims.	P.	P. suddenly stopped and apparatus removed. Patient recovering. $CHCl_3$ again given, P. again stopped and R. ceased. Artificial R. used with no avail.	? Syncope. P.M. Showed patient to be weakly and that "lungs had never been properly inflated."	
320	22	F	Labour.		P.	Tremor occurred. P. ceased.	No cause of death found beyond giving $CHCl_3$.	"Patients in labour do not enjoy any absolute immunity from the pernicious effects of chloroform. Both patients free from cardiac or pulmonary complications."
321	25	F	Labour.			"As patient did not rouse after inhalation, surgeon called in, who found a thready pulse, face blue and R. imperfect. In 10 minutes woman died."		
322		M	For hydrocele.	15–20 grm.		"Every means of recovery including tracheotomy tried in vain."	P.M. Nothing remarkable with respect to organs of R. and circulation was found.	
323	25	M	Circumcision.				"Chloroform administration." P.M.	
324	8	M	On knee.	4 dr.		Operation concluded, when lividity of countenance noted. Measures employed were: Artificial R. and battery for ¾ hour with no result.	Syncope.	
325			To procure sleep when under delirium tremens.					Patient was suffering from injury to foot.
326		F	For tumour on right breast.		P.	P. began to fail, and in spite of restorative efforts, patient died.		
327		M	For contractions of legs and arms.		R.	As patient was not sufficiently under influence of $CHCl_3$, more was given, when it was found R. had ceased. Artificial R. with no effect.		Had been operated on under "Bichl. Methylene" the day previous.
328	38	M	Perineal fistula.				P.M. "Pyelitis, ascending nephritis, chloroform."	
329	33	M	For fistula.		P.	Very superficial R. continued "long after" heart's action had ceased.	Syncope.	A powerfully built man; had formerly suffered from delirium tremens and typhus.
330					P.	Very superficial R. continued "long after" heart's action had stopped.	Syncope. P.M. before putrefaction had set in showed air bubbles in the blood of the sinuses in the vessels of the pia mater, in that of both sides of the heart and in the pulmonary vessels. Heart flaccid, not diseased.	A broken-down person. For last year had been inmate of lunatic asylum.
331		M	For enucleation of eyeball.		P. & R.	Suddenly ceased breathing and face became livid, operation being completed. Measures resorted to were: Pulling forward tongue and artificial R., galvanism and nitrite of amyl.	Syncope. P.M. appearances *nil*, except intense congestion of kidneys.	
332			Removal of orbital tumour.					
333		M	Removal of small piece of bone.					Had taken $CHCl_3$ well before. Previous to that was given ether, but bearing it so badly preference was given to $CHCl_3$.
334	14	F	On abscesses in elbow-joint.		? P.	Breathing soon became noisy and embarrassed; lips and face turned livid. Usual restoratives, with no avail.		

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
235	11	M					Syncope.	
236			Removal of bone from leg.				P.M. showed extensive adhesion of the pericardium.	Given at patient's desire, who had taken it on 3 previous occasions.
237	17	M	On left foot.	3 dr.	R.		Asphyxia hastened by action of $CHCl_3$ on congested lung. P.M. Heart: normal, left side empty and contracted, right filled with black fluid blood, 3 dr. of blood in pericardium. Lungs: right congested, left hepatised, with adhesions.	
238			Removal of projecting phalanx from injured finger.			Death occurred before operation. Usual restorative means attempted.	? Syncope. P.M. Fatty liver, the only pathological state found.	
239	20	M	Extraction of teeth.	Napkin with paper funnel. 3 oz.		Patient soon under influence of vapour; tooth extracted became partially sensible; more $CHCl_3$ given, 2 teeth extracted, again partially sensible; another tooth extracted *without* more $CHCl_3$. Patient then began to struggle and show signs of pain. Head brought forward, mouth well cleared. Then put in former position, when suddenly threw up arms, rolled eyes, and ceased to breathe. Measures used were: Inversion, drawing forward tongue, artificial R. Heart still beating, no pulsation at wrist, face very livid, no natural R. Electricity and iced water employed also. Efforts continued for 1 hour.		Sitting posture.
240	50	M	Reduction of dislocated hip (5 minutes).	2 dr.	P.	Before operation had been begun, countenance changed and P. ceased. Electricity applied, lower limbs elevated, artificial R. for 1 hour, and other means with no success.	Syncope. No P.M.	Heart and P. had been carefully examined before administration.
241		M	For necrosis of tibia.	Small quantity.	R.	Before fully under anæsthetic R. stopped and could not be restored.	P.M. Brain softer than natural.	
242	36	M	Extraction of teeth.			Two teeth had been extracted when it was found that he had ceased to breathe. Artificial means to restore R. proved fruitless.		Sitting posture.
243	48	M	Reduction of dislocation of shoulder.		P.	Action of heart suddenly failed. P. stopped before breath ceased. Usual restoratives applied.	Paralysis of heart. P.M. Heart large, with much fat in its substance. Lungs emphysematous. Liver fatty. Large ecchymosis in axilla and pectoral region.	
244	50	M	Removal of enchondroma of upper lip (7 minutes).		P. & R.	Seven minutes after $CHCl_3$ given P. and R. ceased. Means resorted to were: Artificial R., tongue drawn forward, faradism, and tracheotomy.	? Syncope. P.M. Extreme emphysema of lungs, hypertrophy of right ventricle, congestion of liver and kidneys, and arterial atheroma.	Patient was subject to pulmonary emphysema, but no obvious cardiac disease.
245		M	For hernia.				Syncope.	Had been without proper food for 9 days. Was complaining of severe pain in lower part of body, and was sent to the infirmary.
246		F	For abscess of the breast.			After a few inspirations of the anæsthetic she became insensible and all efforts to restore life were in vain.		
247	40	M	For stone in bladder.	Folded napkin.	? R.	Before becoming totally unconscious, patient sprang from table and struggled with those holding him; strength gave way, he sank on floor and ceased to breathe. Artificial R. for ½ hour without avail.	Syncope. P.M. Fatty degeneration of heart.	

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
348	40	M	Reduction of subglenoid dislocation of the shoulder.		P.	After 6 or 8 inhalations of the chloroform his P. ceased and all efforts to revive him failed. Artificial R., electricity and digitalis.	P.M. revealed no heart disease.	Had twice before had dislocation reduced at hospital under chloroform, and "This man was known to have had $CHCl_3$ as many as 8 times on former occasions".
349	35	F	Extraction of teeth.	Skinner's inhaler. 2 dr. (little over.)	? P.	When stumps were being removed patient jumped up and began to struggle with operator and administrator as if hysterical. This lasted 2 minutes. Then swooned back and was dead in 5 minutes.	? Syncope.	Patient had taken $CHCl_3$ twice before. Examination of heart showed no indication of disease.
350	50	M	Amputation of leg.	Skinner's inhaler. ? 2 dr.	P. & R.	At commencement of operation patient seemed as if wanting to vomit, but only spat out a little mucus. In ½ minute jaw dropped and faced turned blue. Tongue drawn out and artificial R. begun. R. had ceased, no P. at wrist. In 5 minutes both returned, when suddenly P. fluttered, became intermittent and stopped altogether, R. failing at same time. Artificial R. carried on some time longer.	Syncope. P.M. "Fatty heart, œdematous lungs; granular kidneys."	Had taken $CHCl_3$ twice before.
351	49	F	Amputation of breast.	2 dr.	P.	Took several long inspirations and passed into the excited stage. Directly this was over the P. ceased to beat, but 2 slight inspirations were made.	P.M. No disease of lungs or heart. Arachnoid very opaque, and large effusion of blood.	Patient stout and full-blooded; nervous at taking $CHCl_3$. Intemperate.
352	42	M	For epulis of upper jaw.		P.	Patient had just come under influence of anæsthetic when heart's action was arrested. Measures taken were: Drawing forward tongue, artificial R., galvanism to carotid region and hypodermic of atropine.	Syncope.	Anæsthetic carefully administered.
353	59	M	For lithotrity.	2½ dr.		As operation was going on patient seemed to have fainted. Artificial R. for ½ hour without effect.	Syncope. P.M. Heart weak and flabby, especially right ventricle.	Had undergone a first operation for lithotrity successfully under $CHCl_3$, this having taken place recently.
354	15	F	For strabismus.	2 doses. (1) 2 dr. (2) less quantity	P. & R.	After left eye had been operated on successfully and dose for operation on right had been given and operation commenced, breathing and P. both failed. Every effort to restore animation unavailing.	Syncope.	Patient a fit subject for $CHCl_3$.
355	18	F				"Effect of drug too powerful; galvanic battery applied, consciousness could not be restored and patient died."	? Syncope.	
356		F				Died under the influence of chloroform prior to an operation.	? Syncope. P.M. Heart of deceased was very small, but the organs were perfectly healthy.	
357	43	M	For incisions into subcutaneous structures (erysipelas).	Inhaler, flannel over wire frame.	P. & R.	Immediately patient came under influence of $CHCl_3$ he ceased to breathe and P. stopped. He drew a few breaths after this. Tracheotomy, galvanism and artificial R. for 1 hour were tried, but all unavailing.	Syncope. No P.M.	Patient had taken $CHCl_3$ well a month before.
358	35	M	Removal of wen from neck.				? Syncope. P.M. Heart disease.	Patient 6 ft. 7in. in height.
359	31	M	Removal of tumour.	On towel, 3 dr.	? P.	Face became livid, breathing slow and laboured, gasped and colour became purple. Battery and artificial R. (the latter for 1 hour) were tried with no success.	Syncope. P.M. Heart flabby.	
360	41	M	Reduction of dislocation of left shoulder (3½ or 4 minutes).	On cone of lint. 2 dr.	P.	Immediately after operation breathing became stertorous, face congested, P. suddenly stopped. Measures for resuscitation were: Artificial R. for ½ hour, enema of brandy, galvanism.	Syncope. P.M. Fatty change in heart with fibroid thickening of valves which were however healthy.	
361	55	M	For uterine tumour (1¾ hour).		P.			

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
362	60	M	For cataract (about 5½ minutes).	On funnel-folded towel. In 2 doses, less than 2 dr.	P.	Face became livid and P. suddenly ceased. All restorative efforts useless.	From "heart disease" according to verdict at inquest, but this not borne out by P.M.	Patient had been run over and slightly injured a fortnight before operation. This was not known to surgeon till after his death.
363	27	M	Rectifying defective position which leg had taken after compound fracture.		P.	When operation completed patient became suddenly livid and heart ceased to beat but R. continued considerable time. Measures employed were: Artificial R., galvanism, brandy injections.	Syncope. P.M. Liver fatty. Heart in most advanced state of fatty degeneration.	
364	9	M	For abscess in thigh and spinal disease (a few minutes).			Operation successfully performed but patient never recovered consciousness.		
365	15		Dental.		R.	Breathing suddenly ceased and death almost immediate.	Syncope.	Patient apparently healthy. Was *sitting* up in chair when $CHCl_3$ was given.
366								
367		F	Dental.					
368		M	For sympathetic ophthalmia.			Anæsthetic not given many minutes before patient died.		
369	30	M	Reduction of dislocation of shoulder.		P. & R.	At convulsive stage, breathing suddenly ceased and it was found that heart had stopped.	Syncope.	Vigorous man.
370	50	M	Reduction of subcoracoid dislocation of shoulder-joint.	Handkerchief. 2 dr.	P.	Before operation patient raised his body, got black in face and died. Artificial R. for ½ hour of no effect.	Syncope. P.M. Heart in state of fatty degeneration, and other organs extensively diseased.	
371	21	M	Adenoma of neck.			Operation almost performed when P. was found to have become thready. Battery sent for but in ¼ minute patient was dead, though battery arrived and was applied. No means were successful in bringing patient back to life.	? Syncope.	This death occurred on the very day that M. Gosselin formulated the proposition at the Académie de Médecine, "that chloroform was never the cause of death when it was well administered."
372	23	M	Excision of eye-ball (8 minutes).	"Towel over face, Edinburgh method."	P.	After operation had begun, patient began struggling. towel was replaced, and at once P. failed. Remedial efforts unavailing.	? Syncope. No P.M. appearances, except some copper-coloured spots on legs.	
373	9	M	On bronchocele.		R.	When nearly under influence of anæsthetic breathing became worse. Incision in tumour having been made patient became quickly livid, was making respiratory efforts, but no air entered chest. Tongue drawn forward and position of head and neck changed with no advantage. Tracheotomy could not be performed. Artificial R. commenced, flexible catheter being passed through glottis, and was kept up ½ hour. The P. kept good.	Asphyxia. P.M. Tumour an enlargement of thyroid. Passage of trachea where pressed on by tumour very much contracted. Mucous membrane slightly swollen. Lungs congested. Numerous bullæ under visceral pleuræ.	Patient's R. very defective from the tumour pressing on trachea.
374	29	M	Opening abscess in sac caused by strangulation of large right inguinal hernia.	Lint in cone-shaped compress. 4-6 grm.	P.	Operation commenced. R. strong, a little stertorous, P. good. P. grew weaker little by little and R. also grew weak and finally stopped, although the compress had been removed some minutes. Mouth to mouth insufflation, artificial R. (Chaussier's tube) did not succeed in restoring animation. At 3 intervals there was a deep inspiration but death took place.	Syncope. P.M. Heart: mahogany-coloured. Lungs: pseudo-membranous pleurisy somewhat advanced, not having given place to appreciable reactionary phenomena.	Patient was small, wretched-looking, of alcoholic habits, and was attacked with "guêle de loup." On account of deformity of throat more than usual precautions taken with chloroform. The chloroform was not absolutely pure; it contained a little alcohol, but this fact counted for nothing in the causation of death.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
375			Reduction of dislocated shoulder.				Asphyxia caused by pulmonary congestion. P.M. Lungs congested on side of fracture of ribs.	
376	31	M	Forcible stretching of sciatic nerve.	Intermittingly on a compress. Had not inspired 10 grm.	R.	After complete anæsthesia was obtained, operator bent leg and thigh upon trunk in such a way that the foot was carried to the neighbourhood of the head. Patient became livid, stopped breathing, and died. Lowering head, artificial R., electricity and tracheotomy were tried in vain.	Respiratory failure and syncope.	Was suffering from sciatic neuralgia that defied treatment, but was otherwise vigorous and in perfect health.
377	38	F	Reduction of fracture of leg.		P.	For 2 minutes all well, but collapse followed. Artificial R. and other methods useless.	Syncope. P.M. Fatty degeneration of heart—"heart which could not resist the shock of pain first and of chloroform upon pain."	
378	34	F	For ovariotomy.				"Collapse," verdict at inquest.	
379		M	Removal of tumour from nape of neck.	Scotch method.		Died suddenly before commencement of operation.	? Syncope.	Healthy man.
380	35	F	For fistula in ano.	On folded lint.		At stage of muscular rigidity P. stopped. Measures to restore adopted were: Cold affusion, artificial R., application of faradic current.	Syncope. P.M. Heart exceedingly fatty.	
381	49	M	Removal of diseased bone of right foot (10 minutes).	3 dr. (less than).	P.	Piece of diseased bone having been removed patient struggled, sat up in bed. P. at wrist became weak, flickered and stopped, face became livid, but temporal artery still beating. Pupils fixed, not dilating. Artificial R. and faradic current to phrenic nerve were tried but patient only gave 2 or 3 gasps.	? Syncope. No P.M.	Patient looked older than he really was. P. strong and regular, and a little hard. No signs of cardiac mischief.
382	52	M	On cancerous growth on lip.	On lint. 1 dr.		Patient became very violent, P. became imperceptible, and breathing after 4 or 5 Rs. seemed about to stop. Artificial R. and other means used without avail.	Syncope. P.M. Heart large and flabby; extensive atheroma of coronary arteries; no fatty degeneration; no valvular disease.	No examination of heart was made prior to administration, but it is doubtful whether any examination could have revealed a dangerous state of the organ.
383	14	M	On dislocation and fracture of bones at elbow.	Inhaler. 1½ dr. given at a time.	P.	After operation, when patient was beginning to recover, he raised himself. In 10 minutes more, breathing prolonged and slow, pallor and cessation of P. Jaw drawn forward; took inspiration. Tongue drawn forward with artery forceps, cold water on face and chest, head lowered further. Silvester's artificial R. used, battery applied and ammonia to nostrils. Died in 2 minutes from first symptoms being noticed. Artificial R. kept up some time.	Syncope. No P.M.	Heart examined before operation. Found normal, though slightly weak.
384		M	For stricture of urethra.	2 dr.		Patient suddenly ceased to breathe and died in two minutes. Usual restorative means without success.	? Syncope. P.M. Heart undergoing fatty degeneration.	Patient had not led very regular life, and was somewhat intemperate.
385	40	F	For lateral fissure of the cervix uteri.	Towel folded in funnel shape. 3 dr. (less than).	P. & R.	Became cyanosed, eyes staring and fixed. R. embarrassed, gurgling noise in bronchi. Measures adopted were: Raising head and turning body into supine position, opening windows, cold affusions, slapping, depressing head and raising body and lower extremities; brandy injection and hypodermic of liquor ammoniæ and brandy; applying hot towels over cardiac region, vein in arm, and then right jugular, opened—all with no avail.	Paralysis of heart. [Fright and terrible anxiety may have had much to do with fatal ending of case.]	Was of peculiar nervous organisation, thin, and anæmic.
386	36	M	Amputation of left thumb.	Inhaler. 90 drops, 1½ dr.	P.	Showed symptoms which necessitated restorative measures being used. On his coming to and operation being hastened, P. failed, heart ceased beating, and patient was dead.	Syncope. P.M. Fatty degeneration of heart.	Fatty degeneration could not be detected by the stethoscope.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1850 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
387	33	M	For cancer of tongue.		P.	In 3 or 4 minutes turned blue; pulsation ceased. Restoratives administered without effect.	? Syncope. P.M. Kidneys and liver much diseased; heart so slightly that nothing could be detected during life.	Patient was examined thoroughly beforehand.
388	58	M	For cancer of tongue.		P.	P. stopped, patient became livid and commenced gasping. Restoration tried without effect; operation not begun.	Syncope.	
389		M	For double fracture of jaw.		P.	Death occurred during administration of $CHCl_3$. When the struggling (which was excessive) ceased, the P. was imperceptible and after about 6 respirations, breathing stopped.	Asphyxia. P.M. Larynx injured, extravasation beneath tongue, and accumulation of blood in trachea.	
390		F	Extraction of teeth.					Sitting posture.
391-392								
393		M	Amputation of finger.			Before operation began, patient ceased breathing.	? Syncope. P.M. Cardiac disease, result of old attack of pleurisy.	Patient apparently healthy.
394	35	F	Extraction of teeth.	2 dr.			? Syncope. Had diseased heart and kidneys.	Had taken $CHCl_3$ well 3 weeks before; administered by same dentist.
395		M	Extraction of tooth.	Folded towel. 2 teaspoonfuls.		Alarming symptoms supervened. Measures adopted were: Artificial R., nitrite of amyl, suspension with head downwards, all unavailing.		Sitting posture. Sitting posture.
396	5	F	On diseased knee joint.	Small quantity.	P.	Operation having been performed, which occupied but a second or two, child's heart suddenly ceased to beat. Every means used in vain to restore R.	Syncope as shown by P.M.; also from debility following diseased knee joint.	Had taken $CHCl_3$ twice before.
397	56	F	Opening abscess in thigh.		P.	Operation about to be commenced when P. failed.	? Syncope.	Bronchitic and asthmatic, with very feeble circulation.
398		F		On a towel About 1 dr.	P.	While the inhalation was proceeding, the pupils of both eyes slowly dilated to 2 or 3 times their natural size. On being spoken to the patient answered intelligibly but as she spoke her P. abruptly ceased beating. R. continued for some seconds afterwards.	? Syncope.	Prior examination had detected no disease of heart or lungs.
399	10	M	Extraction of tooth.			On first indication of alarming symptoms, artificial R. tried which kept up life for 2 hours and then patient died.	"Death from gradual paralysis of nerves of heart and respiration."	Sitting posture.
400-*406								No comment.
407	7	M	Opening abscess in knee-joint.			Died before operation was performed.	Syncope.	
408	50	M	For stricture in membranous portion of urethra (external urethrotomy).			While the anæsthetic was being given, during stage of excitement, patient raised himself suddenly and fell down dead.	? Syncope.	An ounce of whiskey had been given ½ hour before, and another ounce just before using the $CHCl_3$.
409		F	Removing tooth.			When the tooth had been drawn, patient found to be dead.		Was in good health, suffered from occasional neuralgia ascribed to ulcerated gum.
410		F	Extraction of teeth.		? P.	As last tooth was being removed, patient showed signs of returning consciousness by lifting up her hands, and immediately afterwards expired.	Syncope (apparently).	Sitting posture. Had frequently had teeth removed under $CHCl_3$ before.
411		M	Excision of tongue.	Towel.	R.	Chloroform not long given before patient's R. ceased and face became livid, and appearance was of tonic stage of epileptiform convulsion. Every measure for restoration used with no success.	Asphyxia. (Epileptiform convulsion.)	Sitting posture.

* Case 402. Before operation was performed patient died.

* Case 403. Died while under influence of drug.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
412	17	F	Extraction of teeth.			Died while under influence of $CHCl_3$.		Patient insisted upon being put under $CHCl_3$ against the advice of the administrators. Sitting posture.
413		M	Re-setting of broken thigh.			During operation was seized with epileptic fit and died in a few minutes.	Epilepsy.	
414	20	M	Passage of catheter.	On handkerchief formed into hollow cone.		Operation proceeding when death took place suddenly without any preliminary convulsion, "patient being completely overpowered by anæsthetic."	? Syncope. ? Overdose.	The patient was a strong healthy man, keenly sensitive to pain. Native assistant not paying attention to his patient allowed the cone to completely cover both mouth and nostrils.
415	28	M	Removal of lupoid growth from under lip.		P. & R.	Had hardly taken 2 whiffs when R. ceased and he was dead.	? Syncope. P.M. Fatty degeneration of right ventricle of heart. Death attributed to physical causes; dread of operation.	
416	35	F	Cancer of tongue.			Died before operation was commenced.	"Death from chloroform before operation." P.M. Emphysema of lungs. Dilated right heart.	
417			Extirpation of eyeball.	½ oz.		In about 15 minutes after first inhalation. R. became embarrassed, P. affected, patient became livid and in 5 minutes R. had ceased. Artificial R. electricity, hypodermics of brandy, ether and strychnine solution tried.	P.M. appearances *nil*.	
418	32	M	Amputation of toes.	Small quantity.			Syncope.	Every care used to guard against fatal result.
419	15	M	Removal of tumour from lip.			Patient became livid. Restoratives tried but death took place immediately.	"Paralysis of the nerves causing syncope."	Administrator gave $CHCl_3$ prior to commencing operation without assistance of second professional attendant. Patient had taken $CHCl_3$ before.
420	45	M	Contracted palmar fascia.			Died before operation was commenced.	P.M. "Death from chloroform before operation."	
421	28	M	Urethral stricture.	On lint. 1 dr.	P.	As patient passed into final stage muscular rigidity came on, face became pale and P. lost. Inversion, artificial R. and galvanism practised. No return of P. and breathing gradually ceased.	Syncope. P.M. Tubercular disease of kidney and ureter, early tuberculosis of epididymis on both sides, with complicated stricture of urethra. Heart: overlaid with fat, and muscular tissue pale.	Had taken ether 3 times before, but refused to do so on this occasion.
422	47	M	For fistula in ano.		R.	At close of operation, breathing became shallow and stopped, P. being weak, rapid, but evident. Artificial R. 1 hour 20 minutes, also ammonia, cold effusions, and galvanism. P. gradually faded, and R. never restored.	Failure of R. P.M. All organs healthy except fatty liver.	
423 425								No particulars.
426			Dressing sprain of ankle.	Few drops.		Died after a few drops had been inhaled.	"Syncope consequent on drunken habits of patient."	
427	54	M	For hernia.			Copious vomiting, failure of P.	Asphyxia, small quantity of food below rima glottidis.	

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	Remarks.
428		M	Strabismus.					
429	45	M	Excision of part of tongue for papilloma (5–6 minutes).	Flannel. Skinner's inhaler.	P.	Face became livid and heart's action found to have ceased. Measures employed were: Laying patient flat, putting bolster under shoulders, artificial R., galvanic battery, cold douche to head. No good result.	Syncope.	Heart examined before administration and sounds found to be normal.
430	57	M	Epithelioma in cheek.				P.M. "Emphysema. Syncope under chloroform."	
431							P.M. Heart malformed. ? Syncope.	
432	50	M	Amputation just above ankle-joint.	Towel. ½ dr.		Patient expired after only 12 inspirations. Nitrite of amyl and ammonia, together with artificial R., used ineffectually.		
433	17	M	Exploration of ankle-joint.			Took anæsthetic well and breathed easily during operation, which lasted about 5 minutes. $CHCl_3$ then discontinued. Patient seemed recovering when vomiting came on. Throat cleared by fingers and tongue brought forward by forceps. By this time heart had failed. Artificial R., electricity and tracheotomy tried with no avail.	"Fatal fainting caused by administration of chloroform." No P.M. allowed. Syncope.	
434	35	F	For necrosis of tibia (supposed to be syphilitic).	Cone.	R.	P. became more rapid and less strong, muscles became rigid, and R. suddenly failed. Usual methods for resuscitation—nitrite of amyl, ammonia, reversing body, artificial R.—all employed without avail.	"Spasm of diaphragm and respiratory muscles." P.M. Heart dilated and extended with dark fluid blood and clots; large fibrinous clot extending into pulmonary artery. Lungs: old pleuritic adhesions. Brain: substance anæmic. Kidneys contracted, albuminous urine.	Intemperate, had taken $CHCl_3$ four months previously with no bad symptoms. $CHCl_3$ on fatal occasion tested and found pure.
435	44	F	Epithelioma of tongue.				P.M. "Death under chloroform." Syncope.	
436	26	M	Forcibly moving stiffened joints for fracture.	Folded towel.	P.	Patient commenced inhaling by taking several rapid shallow breaths, then followed 3 or 4 deep inspirations. Cloth was then removed, though he was breathing, eyes wide open and pupils rapidly dilating, conjunctiva insensible. Face not livid but slightly flushed, lips normal, on feeling radial no P. could be detected. Tongue withdrawn by artery forceps and artificial R. begun. Bed raised at foot, ether injection and galvanism applied. Patient made 3 or 4 Rs. but no return of P.	There was no pallor and the pink appearance at death was abnormal. Either vasomotor centre in common with cardiac became paralysed and thus blood was kept in small arteries and capillaries, or the veins contained arterial blood, from the highly oxygenised condition of blood, due to rapid R. No P.M. allowed.	Patient a strong healthy labourer. Had been in hospital 3 months laid on his back. This may have caused some organic changes leading to a fatal result.
437	28	M	Amputation through second phalanges for mangled fingers.	Napkin. 2½ to 3 dr.	P.	Before operation begun, suddenly long stertorous R., heart ceased beating, patient became pallid, breathing ceased. Then dark venous congestion which faded away. Measures adopted were: Drawing forward of tongue by vulsellum forceps, artificial R., and heart irritated by fine aspirating needle. All efforts useless.	Cardiac paralysis. P.M. Brain slightly congested. Lungs very congested and slightly œdematous. Heart: much fat round auricles, fatty infiltration of muscular fibres.	Patient seemed 10 years older. Heart examined, no trace of organic disease, but acted rapidly and feebly. Previous history could not be ascertained.
439	33	M	Extraction of teeth.	Given in "usual way."		Patient fainted after extraction of 2 teeth. Was placed on floor and usual means taken to restore animation. Breathed 3 times after this, but death ensued.	Failure of heart's action. P.M. Heart and lungs found healthy. Primary cause probably irritation of 5th nerve which would produce slowing of heart's action and finally stoppage through pneumogastric nerve.	Patient not strong and had suffered much from toothache and neuralgia, but had proved himself sound in heart and lungs. Sitting posture.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
439	71	M	? (5-6 minutes).		? P. & R.	Patient ceased breathing, and attempts to re-excite heart were unavailing.		
440	56	M	Removal of tongue for epithelioma.		? R.	In the early part of administration slight hæmorrhage began and increased during the struggling of the excitement stage, which was very violent. Before operation commenced he turned pale, became suddenly livid and ceased to breathe. No respiratory movement afterwards made, though inversion and other methods of restoration used.	P.M. Right lung found generally attached to chest-walls by old adhesions; substance of heart natural and valves competent.	Patient was a man much broken down in health from alcoholism and neglect. Much hæmorrhage occurred from tongue on night after admission.
441	33	M	Incision into inflamed arm.		? P,	Soon after commencing inhalation, pulse became weak and irregular. Administration continued cautiously, but before insensibility was complete patient suddenly became faint and died.	P.M. General hypertrophy of heart with dilatation, especially on right, slight thickening of edges of cusps of mitral valve. Miliary tubercles thickly scattered throughout lungs and spleen; a few tubercles were also found beneath endocardium. Commencing cirrhosis of liver and kidney.	Was admitted on March 22, and fatal administration of $CHCl_3$ took place on March 29. A week earlier was operated on under $CHCl_3$. Cause of admission was wound of forearm with division of ulna by circular saw. The ends of the bone were united with wire, but arm became inflamed and a second operation was necessary.
442			Removal of necrosed bone from leg.					
443		M	Injury to hand.					
444	24	M	Reduction of dislocated humerus.		? P.		? Syncope. P.M. "Slight disease of the large vessels of the heart."	
445	53	F	For abdominal section.		? P.		? Syncope. P.M. "Enlargement of heart and liver, and disease of other organs."	Before administration heart examined and found quite sound.
446	40	M	Ligaturing right carotid.			After a few inhalations of $CHCl_3$ it was noted that R. had ceased, though P. beating well; all efforts unavailing, and in 10 minutes heart ceased to beat.	Failure of R. P.M. Lungs much congested. Heart healthy. Innominate artery dilated into large aneurysm with no trace of its original form remaining.	Anæsthetic given and intended operation agreed upon at urgent request of patient, though the danger of both was pointed out.
447		M	For ligature of external iliac artery for femoral aneurysm.		P. & R.	Operation performed quite successfully. At termination and without warning P. and R. ceased, and all efforts to restore animation failed.	Syncope.	
448		F	For change of dressings of amputated thigh.		R.	R. ceased when operation was over.	P.M. Extensive thrombosis of part of venous system.	Extremely weak.
449	?							
450	?							No particulars.
451		M	For abscess in bladder (3 minutes).		? P.	In about 2 minutes patient became pale, and it was found heart had ceased to beat. Resuscitation tried, but without avail.	Syncope.	
452			Reduction of dislocated hip.					
453		M	Injury to anal region.		P. & R.	Had only just been anæsthetised and operation just commenced when R. and circulation stopped, and the man was dead.	P.M. Lungs: tissue replaced by tuberculous masses.	It was known that the patient was phthisical but neither auscultation nor percussion revealed such extensive lesions as the autopsy brought to light.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
454		M	Thoracentesis for pleuritic effusion.			Asphyxia from beginning, turned bluish, efforts made to resuscitate him. Then cardiac syncope, heart stopping.	Cardiac syncope, not asphyxia, because by means of insufflation he respired 4 or 5 times. P.M. Gummata in kidneys, choroid plexus and lungs. Whole of one lung was seat of chronic pneumonia with greyish infiltrations. Numerous pleuro-pulmonary adhesions.	
455		F	Extraction of tooth.			Pupil became widely dilated. P. could not be felt, and face became blanched. Chair, on which patient sat, turned back, head lowered, body and limbs raised. Nitrite of amyl, artificial R.	Syncope. P.M. not allowed. ? Reflex.	Patient had taken $CHCl_3$ (2 dr.) well for same operation 3 days before. Sitting posture.
456	28	M	Paraphimosis. Removal of tumour.				No P.M.	
457	59	F				After 20 minutes, sat up, became convulsed, and fell back unconscious. Breathing went on 20 minutes, but no P.	No P.M. ? Syncope.	
458		F	Dental.					Sitting posture.
459	13	M	Dental.			Stood up after operation, and immediately fell back dead.		Sitting posture.
460		F	Dental.					Sitting posture.
461	47	M	Examination for injury to knee (4 minutes).		? R.	Breathing suddenly stopped. Artificial R. and usual restoratives used for 2 hours without success.	Paralysis of heart. P.M. Heart in state of marked fatty degeneration.	Patient had good regular P., and stated had always been strong and healthy.
462								No particulars.
463	48	M	Amputation at patella for gangrene and blood-poisoning.			Embarrassed breathing came on soon after beginning of operation	? Syncope. P.M. Old standing disease of heart and fatty degeneration of heart, liver and kidneys.	Anæsthetist knew that patient had diseased heart but $CHCl_3$ had been formerly used with no ill results.
464	43				? P.		"Cardiac syncope. Chloroform administration." No P.M.	
* 467	54	M	For long standing disease.		? P.	Immediately on completion of operation heart's action found to have ceased. An ounce of brandy given ½ hour before administration.	Syncope.	Examination of heart before administration gave no evidence of disease. Patient had successfully undergone similar operation 25 years previously.
468		M	Reduction of dislocation of right shoulder.			After reduction of dislocation patient gave 3 deep Rs. and death took place, all attempts at resuscitation failing.	Syncope (apparently). No P.M.	As far as could be ascertained patient's heart organically sound.
469	30	M	For false ankylosis of finger-joints (4 minutes).	Napkin. Slight dose.	R.	R. ceased. The most active efforts failed to resuscitate him.	P.M. Fatty heart and liver. Diseased kidneys.	
† 472	35	M	For empyema following pleurisy of right side.	2 dr.		After administration sank rapidly.	Asphyxia.	
473	32	M	Incision for glandular abscess of right sub-maxillary region.	Esmarch's open inhaler. 2 dr.	? P.	Patient struck out wildly with arms, became stiff in opisthotonos, face became livid and distorted, pupils widely dilated, abdominal muscles rigid. P. ceased suddenly, patient turned lax and was dead. All efforts at resuscitation employed for 45 minutes of no avail.	? Syncope.	Patient's heart carefully examined before operation. P. good except just before operation when weak and rapid. Suffered from nervous depression. $CHCl_3$ used unexceptionable.
474	41	F	Incision for pleurisy with effusion of left side.	2 dr. (about.)	P.	Before the administration was completed P. stopped, and heart ceased beating in 5 seconds. Artificial R. performed, patient breathing, but no return of P. Fluid drawn off, and various means used with no effect.	Syncope. P.M. Heart fatty and empty.	

* Case 465. No particulars.

* Case 466. For cancer in mouth.

† Cases 470 and 471. No remarks.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
475	14	M	Removal of diseased bone from leg.		? P.	Became faint, and action of heart ceased when operation half completed.	Syncope. P.M. Liver and lungs much congested, owing, probably, to action of $CHCl_3$.	Had undergone similar operation successfully before.
* 478	30	M	Removal of a piece of necrosed metacarpal bone.	On lint. 2 dr.	P. & R.	Operation just commenced when P. became flickering and R. shallow.	Syncope. P.M. Heart: right auricle much distended with blood; valves healthy; muscular substance brown; walls thin and fatty. Pleuritic adhesions.	
479	45	M	Removal of epithelioma from tongue (5 minutes).	1½ dr.	P.	P. fluttered suddenly and became imperceptible. R. impeded. Artificial R. (Silvester's method) begun. Patient breathed once or twice but no heart sound heard. For ½ hour every effort made with galvanic battery, ether injections, and nitrite of amyl to nostrils.	Syncope. P.M. Heart substance yellowish-brown; tissue friable; ent surface appeared granular; walls on right side thin, almost transparent, large deposit of fat globules in muscular fibres; valves healthy; aorta sacculated and atheromatous. Lungs emphysematous.	Careful examination of chest had been made before administration.
480	28	M	Drainage of chest for pleurisy with effusion.		? P.	During last steps in operation symptoms of syncope suddenly developed, and all efforts to restore patient proved unavailing.	Syncope.	

Case 481. An operation "on thumbs."
Case 482. Operation for swelling in ankle and calf. Was completed when deceased ceased to breathe (3 minutes).
Case 483. Operation for examination of sinus in loin. The patient was seized with syncope before operation was complete, and died in a few minutes.
Cases 484, 485, and 486 call for no remarks, except that the latter was a case of removal of nævus.
Case 487. Syphilitic shrinkage. After a few inhalations patient fell down dead.
Case 488. Tracheotomy. Patient, who had complete calcification of the thyroid gland, swallowed an enormous quantity of blood.
Case 489. Cancer. Immediately $CHCl_3$ administered, patient fainted and died. Had previously undergone operation for cancer under $CHCl_3$ successfully.
Case 490. Abscess in neck. Patient died almost immediately $CHCl_3$ was given.

491	34	M	Incision in abscesses in arm.	Metal inhaler. Lint lining. 2 dr.	? R.	Revived after having seemed to be fully under. Inhaler reapplied and no more given. Incision made, and suddenly breathing stopped. Neck and face became cyanotic. The head was lowered, the tongue pulled forward, and artificial R. begun, after which several long Rs., cyanosis continued. Incision did not bleed. Breathing again stopped. Artificial R. and flipping with cold and hot water towels, hypodermic of ether in thigh 20 minutes, and faradism, all failed to resuscitate. During artificial R. no beat of heart, and pupils dilating.	Failure of heart. P.M. Heart filled with blood, œdema of pericardium covering first part of aorta, walls soft and patulous, but not breaking down with finger nail. Walls of auricles much thinner than usual. Endocardium and pericardium in contact. Mitral valves slightly affected.	Was well developed, fairly good health though weakened by state of arm, and had become slightly intemperate, had fractured both bones of forearm, compound, 2 or 3 months earlier, with laceration of soft parts, and had been treated successfully under chloroform.
492	26	M	Closing of fistula after extraction of urethral calculus.	Skinner's inhaler. 1 oz.	P.	When operation nearly completed, patient became sick, and P. then stopped. Usual means for resuscitation.	? Syncope. P.M. Heart empty, muscles thin and flabby, no valvular disease.	Had taken $CHCl_3$ well for extraction of calculus.
493	45	M	For malignant growth at back of pharynx (2½ minutes).	Junker's inhaler. 1½ dr.	R.	Before operation was begun patient stopped breathing and became livid in face, heart continued to beat. Efforts were made to restore R., but heart ceased beating 2 minutes after R. stopped.	Arrest of R. caused by new growth occluding aperture of larynx. P.M. New growth from right and upper pharynx involving palate and right side.	Patient had been very healthy till 4 months previously, when he began to suffer from dysphagia, pains in head, and had fetid discharge from mouth.

* Case 476. Opening an abscess, and P.M. showed that the heart was structurally healthy.

* Case 477. For injury to hand.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
494	42	M	Amputation of finger for cellulitis after injury.		P.	During inhalation patient began to struggle violently and P. became feeble. Anæsthetic suspended, but P. became imperceptible. No return of P. although some slight automatic breathing took place after P. had ceased.	Syncope. P.M. Heart: extreme fatty degeneration, much dilated. Valves healthy. Kidneys cirrhotic and cystic.	Fairly robust and seemed in average health. Heart auscultated, and no murmur heard. Had had two other fingers lately removed under $CHCl_3$.

Cases 495 to 505 have no comment. Case 505 was a case of extraction of teeth.
Case 506. Strangulated umbilical hernia. P.M. Fatty heart. Case 507. Pus in pelvic tissues.
Case 508. Cellulitis. Death just after completion of operation. Case 509. Obstetrical. P.M. Fatty degeneration of heart.
Case 510. No remarks.
Case 511. Enucleation of eye. Just before completion of operation patient recovered consciousness; few more whiffs of $CHCl_3$ given, when heart ceased beating. Every effort made to resuscitate without success. P.M. Heart, right side dilated, though valves normal.

512	30	M	Amputation of injured fingers.	½ ordinary quantity.	P.	As operation was about to be commenced P. ceased. Artificial R. tried. Patient breathed once or twice, but did not revive.	Syncope. P.M. Heart, though not diseased, very flabby.	Patient's chest carefully examined before administration, and no signs found of heart being affected.
513	38	M	Fungous synovitis of extensors of left fingers.	"Pseudo-chlorure de methylene" (compress).	P.	Patient much agitated, was ready for operation in 2 or 3 minutes. All went well at first, R. being normal, but when Esmarch's bandage was applied, patient had fit of violent excitation and struggled without crying out. R. remaining difficult. Tongue was drawn forward with forceps. Face congested. Chloroformisation had been stopped some minutes. P. ceased, there were 2 or 3 stertorous R., pupils were dilated, and there were no corneal reflexes.	Cause could only be conjectured—probably paralysis of heart.	
514	56	M	Removal of anterior part of tongue and jaw (epithelioma).	Junker's inhaler.	R.	Operation nearly concluded, little blood lost; P. good. When $CHCl_3$ resumed, patient became cyanotic and R. stopped. Stump of tongue dragged forward—one deep inspiration. Attempt to catheterise larynx—another deep gasp. Artificial R. maintained and laryngotomy performed with no effect.	Failure of respiration. P.M. Practically healthy heart muscle. Extensively adherent pleuræ.	Powerfully built, habitual drunkard. Said to have had acute Bright's disease with extensive œdema, but free from albuminuria at time of operation. Heart sounds normal at operation.
515	36	M	?	3 dr.		Struggled violently and expired quite suddenly.	Syncope. P.M. Malformation of heart and extensive kidney disease.	

Case 516. Removal of calculus. During the operation a change in P. was perceived. Artificial R. for more than ½ hour without avail.
Case 517. Extraction of teeth. Before patient had drawn her breath half a dozen times she slipped from her chair and expired almost at once. Syncope brought on by excitement.*
Case 518. Hip-joint disease. Died after inhaling the anæsthetic 15 minutes. P.M. Fatty degeneration of heart, liver, spleen, and kidneys.
Case 519. Amputation of thumb. Before becoming fully anæsthetised patient collapsed and died. Syncope. "Fatty degeneration of heart" cause of death.

* Sitting posture. See also Brit. Med. Journ., October 5, 1889, p. 778, where a case is also recorded of a female insisting on taking $CHCl_3$ for extraction of teeth. The dentist pretending to comply with her wish gave her eau-de-Cologne. After 2 or 3 inspirations she fell from the chair and died. This took place in Germany.